

```

tgttgag                                     667

<210> 437
<211> 693
<212> DNA
<213> Homo sapiens

<400> 437
atacgtctca acocctcatt ttaggttaagg aatcttaagt ccaasagata taagtgactc 60
aacacagccag gtaagggaag ctgatttggc acactaggac tataccatac cgggttttgt 120
tsaagctcag gtagggaggc tgataagctt ggaagggaac tcagacagct ttttcagatc 180
ataaagata attcttagcc catgtttctc tcagagcagc acctgaaatg acagcacagc 240
aggctactccr ctatttloac cctctctgtt tctactctct ggcagtcaga cctgtgggag 300
gcatggggag aaagcagctc tctgtatgtt tgtacagatc atggactatt cctgtgggac 360
cattctoca ggttaccta ggtgtcaota ttggggggac agcagcactc tttagcttcc 420
atttgagttt ctgtctgtct taagtagagg aaacttttgc tottccactc tccacatctg 480
aacactaaat cgtgttgtct ctgagtggtt gaaagccaga tatagagctt acagtattta 540
tcttatttct aggcactgag ggcgtgtggg taccttctgg tgcacaaaca gctcctgttt 600
taaggacatg ttgcttoaga gatgtctgta actatctggg gctctgttgg gctctttacc 660
ctgcatatgt tgcctctctt gctgaaaatg acc                                     693

<210> 438
<211> 360
<212> DNA
<213> Homo sapiens

<400> 438
ctgcttatca caatgaatgt tetcctgggc agcgttgtga tctttgccac ctctgtgact 60
tttgcaatg cctcatgcta ttcatacct aatgggggag ttccaggaga ttccaccagg 120
atgtttctac acctgtgggt tatgacaaaag acaacttcca aagactcttc aagaggagg 180
actgcaugta tatctgttgg agaagaaggc cccaaaaaag acctgttctg taagtgaatg 240
gataatctaa tgtcttctca gtaggcagac ggtccccagg ccaggcctca ttctctctcg 300
gctcttaata gtccataatt gtgtagccat gcttatcagt aaaaagattt ttgagcacaac 360

<210> 439
<211> 431
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(431)
<223> n = A,T,C or G

<400> 439
gttctctnta actcctgccc gaacacgcct tctccaacct gagagctgcc cccctcctcc 60
tggccagggc agccaagcctt agccttggct tottgtttct gcttttttct tgcttagacc 120
gaagtgtact agccaaggag ttgaagtgtt tgactttgtt gtttcggcat ggagaccgaa 180
gtcccatatga caactttccc actgacccca taaaggaaac ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc ctggagcagc attatgaact tggagagtat atagaagaag 300
gatafagaaa attcttgaat gagtctcata aacatgaaca ggtttatatt cgaagcagag 360
acgttgacog gactttgatg agtgctatga caaacctggc agcccgctga cggcgccggc 420
aatttagtag t                                     431

<210> 440
<211> 523
<212> DNA
<213> Homo sapiens

```

```

<400> 440
agagataaag cttagggtcaa agttcataga gtcccaatga actatatgac tggccacaca 60
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
tttaaatgtc tgaaatggaa cagatttcaa aaaaaaaccc cacaattctag ggtgggaaca 180
aggaaggaaa gatgtgaata ggotgatggg caaaaaaccca atttaccocat cagtttccagc 240
ctctctcaca gtagaggcaa agaaaggaga taacagtggag acatcorgaa agttttctcc 300
actggaaaac tgcctactate tgtttttata ttctgttaa aatatatgag gctacagaac 360
taaaaattaa aacctctttg tgtcccttgg tctctggaaca ttatgttcc tttaaagaa 420
acaaaaatca aactttacag aaagatttga tgtatgtcat acatatagca gctcttgaa 480
tatatatc atagcaata agtcatctga tgagacacag cta 523

```

```

<210> 441
<211> 430
<212> DNA
<213> Homo sapiens

```

```

<400> 441
gttctctcta actcctgcca gaacacagctc tctccaacat gagagctgca cccctctctc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttcc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgacittggg gtittggcat ggagcccgaa 180
gtcccatlga cactcttccc actgacccca taaggaatc ctcatggcca caaggttttg 240
gccaaactac ccagctgggc atggagcagc attatgaact tggagagtat ataaagaaga 300
gatataaaa attcttgaat gagtctctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgacgc gactttgatg agtgcctatga caaacctggc agcccgctga cggcccgccg 420
aatttagtag 430

```

```

<210> 442
<211> 362
<212> DNA
<213> Homo sapiens

```

```

<400> 442
ctaaggaaat agtagtgttc coatoacttg ttggagtggt gotattctaa aagattttga 60
tttctctggaa taactcaattat attttaactt tggtagggga aagagttata ggaaccagat 120
cttccactct gatacttgta aattaatctt ttattgcact tgttttgacc attagctat 180
atgttttagaa atgttcaattt taaggaaaaa ttagsaaact tctgataata gtgcagaata 240
aatgaattaa tgttttaactt aatttatatt gaactgtcaa tgacaaataa aattctcttc 300
tgattatctt ttgttttcat ttaccagaat aaaaactaag aattaaaagt ttgattacag 360
tc 362

```

```

<210> 443
<211> 624
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...[624]
<223> n = A,T,C or G

```

```

<400> 443
tttttttttt gcaacacaa ataccatcaca gtgaastgtg taactcttgc aattgtcaag 60
ttgaaagaat taatttcagc ggaaggagga gaagagagac tcaagtagga ctgagcacta 120
aatgcttatt tttaaaagaa tgaataagagc agaaagcaat tcaagctaac ctgacctttg 180
tgcctgctag taactccgttc ggtgtcagca gccagtggtc ttgaacattg caatgtggag 240
cccaaaccca agaaaattgg gtgaatttgg ccaactttct attaatctg ctctgtgttt 300
tataaaatct tgtgaataat atccactact tcaagggcca gttatgagc ttaaatgaac 360

```

```

taacgcctac aaaaacactta aacatagata acataaggtgc aagtactatg tatctggtag 420
atggtaaac tccattat taaagtcaac gctaaatga atgtgtgtgc atatgtctat 480
agtaacagaga gggggcactt aaaccaacta agggcctgga ggggaaggtt cctggaaaga 540
ngatgcttgt gctgggtcca aatctctgtc tactatgacc ttggccaact tatttaaact 600
tctgctctat ctgtcaaca gate

```

```

<210> 444
<211> 425
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(425)
<223> n = A,T,C or G

```

```

<400> 444
gcacatcctt nntcttgcat tctttgagaa taagaagatc agtaaatagt tcagaagtgg 60
gaagctttgt ccaggcctgt gtgtgaaacc aatgttttgc ttgaaatag aacaagttag 120
ttcattgcta tagcataaca caaaatttgc ataatgtgtg gtcagcaaat ccttgatgac 180
tgcttaattg gacaggttgg taaaatcctt tgtgcaaac tctaaactcc tgaagtgttt 240
gcgtgtgtgg cagctgtgca tgcacagaaa ggcgaagctg gctgaagag caaccagcca 300
cctctgcaat ctgccacctc ctgctggcag gatltgtttt tgcctcctgt gaagagccaa 360
ggaggcacca gggcataaagt gattagactt atggtcgacc cggccgcgaa tttagtagta 420
gtaga
425

```

```

<210> 445
<211> 414
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(414)
<223> n = A,T,C or G

```

```

<400> 445
catgtttatg ntthtgatt aacttgggca cctagtgttt cttaactgtc tatcattctt 60
ttctgttttt caaaagcaga gctggccaga gcttcaacaa actgtatctt caagcttttg 120
tgaaattctt tgcattgtgg agattattgg atgtagtctt ctttaactag catataaact 180
tgggtgtgtt cagataaatg aacagcaaaa tctgtgtgaa ttccctattg gaacattgtg 240
aatgaaatct tgtgtctcta gattatgtaa caataacta ttcttaaac attgactctt 300
ggatttttat aatcctactc acaaatgact aggtctctcc tcttctatit tgaagcagtg 360
tgggtgtctg attgataaaa aaaaaaaag tcgacgcggc ccgcgaattt gtag 414

```

```

<210> 446
<211> 631
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(631)
<223> n = A,T,C or G

```

```

<400> 446
acaaattaga anaagtgc agagaaacac acatsecttg tccggaacat tacaatggct 60
tctgcattga tgggaagtgt gaggattcta taatatgca ggaagcattc tgcaggtgtg 120

```

```

argctggtta tactggacaa caetgtgaaa aaaaggacta cagtggtcta taogttgttc 180
cgggtcctgt aogatttcag tatgtcttaa tcgcagctgt gattggaaca attcagattg 240
ctgtccalcgt tgtggtggto ctctgcataa caagggccaa actttaggta atagcattgg 300
actgggattt gtaaaccttc caaccttcca ggaastgcac cagaagcaac agasttcaca 360
gacagagaca aaatacaggg cactacagtt cagacaatac aacaagagcg tccacggagg 420
taactctaaag ggagcatgtt tcacagtggc tggactacog agagctctga ctacacata 480
cagtattata gacaaaagaa taagacaaga gatctacaca gattgccttg caatttgtgt 540
aatctacacc aatgaaaaca tgtactacag ctatatttga ttatgtatgg atataittga 600
aatagtatac attgtcttga tgtttttct g

```

```

<210> 447
<211> 585
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(585)
<223> n = A,T,C or G

```

```

<400> 447
ccttgggaaa antntcaca tataaagggt cgtagacttt actccaaatt ccaaaaagg 60
octggccatg taactcctgaa agttttccca aggtagctat aaaatcotta taagggtgca 120
gocctctctg gaattcctct gatttcaaaag tctcactctc asgttcttga aaacgagggc 180
agttctctgaa aggcaggtat agcaactgat ctctagaaga aggaactctg tgcaccggga 240
tgggctgcca gattaggata ggaattccaga tgcctgacac ttctggggga aacagggactg 300
ccaggtttgt cataggactc atcaaaagtc ggtcaacgct tgtgtcttga atataaacct 360
gtctatgttt ataggactca tccaagaatt ttctatatct ctthcttata taactctcaa 420
gttctaatgt ctgctccatg cccagctggg tgaagtggcc aaactcctgt ggccatgagg 480
attctcttat ggggtcagtg gaaaagggtg caatgggact tgggtctcca tgcgaaaca 540
ccaaagtac aaattccac tccctggcta gtacacttcg gtcta
585

```

```

<210> 448
<211> 93
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(93)
<223> n = A,T,C or G

```

```

<400> 448
tgcctgtggg tcattctgan nncogaantg accntgccag cccctgcogan ggccnccat 60
ggctccctag tgccttgagg aggaaggggc tag
93

```

```

<210> 449
<211> 706
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(706)
<223> n = A,T,C or G

```

```

<400> 449
ccaagttcat gctntgtgt ggaacgtgga cagggggcaa aagcnattgc tcnctgggtca 60

```

```

ttctgancac cgaactgacc atgccagccc tgcgatgggt cctccatggc tccctagtgc 120
cctgggagagg aggtgtctag tcaagagagta gtccctggag gtgcoctctg ngaggagcca 180
cggggacacgc atcctgcaga tggctggggcg cgtcccatcc gccattccag ctgcgcgaact 240
gtttgggaagg gcatatgggt cgggcoctctt cgtctattac ccagctggcg aaagggggat 300
gtgctgcacg gcgatlaagt tgggtacacg cggggttttc ccagtcnaga cgtttgtataa 360
cgacgggcccg tgaattgaat ttagggtgacn ctatagaaga gctatgaagt cgcattgcacg 420
cgtacgttaag cttggtacct ctagagcgccg cgcctaatca tactaatcc cgggcgcgct 480
cgacgtggga tocnactga gagagtggag agtgacatgt gctggacnct gtcostgaag 540
cacctgacgcg aagctggagg cacnaccgnc cagacactca cagctactca gggggtctag 600
aacaggttga acctggggag tggaggttgc aatgagctga gatcaggccn ctgcncocca 660
gcattgatga cagagtgaaa ctccacttta aaaaaa aaaaaa 706

```

```

<210> 450
<211> 493
<212> DNA
<213> Homo sapiens

```

```

<400> 450
gagacggagt gtccactctgt tgcocagggt ggagtggagc aagacactgt ctacagaaaa 60
acagttttta aaggttaaac aactaaaaa gaatatctct atagtggaaa taagagagtc 120
aaatggaggt gagaacttta caaagggttc ttacagacat gtgcgcataa tcaactgcatt 180
agcctaagta taagacaacac ctttggggag aaacctcat ttgacagtga ggtacaattc 240
caagtccagt agtgaattag gtggaattaa actcaaatca atcctgccag ctgaaaccca 300
agagacactg ttacagaggtt asaaagttag ttctatccat gaggtgatcc ccaagtcttc 360
taagtcaac acatctgtga actcacagac caagtcttta aacctctgtt caaactctgc 420
taacacacag aatcaccttg agagctttac aaactcccat tgcaggggtt cgaagcgagc 480
gcgatttag tag 493

```

```

<210> 451
<211> 501
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(501)
<223> n = A, T, C or G

```

```

<400> 451
ggggcgctcc cattgcocat tcaagctggg caactgttgg gaaggcgcat cggctcgggc 60
ctcttcgcta ttacgccagc tggcgaaagg gggatgtgct gcaaggcgat taagtctgggt 120
aacgccaggg ttttcccaat cncagagcttg taaaacgacg gccagtgaat tgaatttagg 180
tgaacatata gaagagctat gacgtcgcat gcaaggtac gtaagcttgg atcctctaga 240
ggggcgccct actactacta cattcgccgc cggctcgacg tgggatccnc actgagagag 300
tggagagtga catgtgtgtg acnctgtcca tgaagcactg agcagaagct cgaaggccaa 360
cgcnccagac actcacagct actcaggagg ctgagacag gttgaacctt gggggtggag 420
gttgcattga gctgagatca ggcncctgcn ccccgagctg gatgacagag tgaacctcca 480
tctaaaaaa aaaaaaaas s 501

```

```

<210> 452
<211> 51
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(51)
<223> n = A, T, C or G

```

```

<400> 452
agaggggttgc accnttaccac cnccttttag gatgggrntt ggggagcaag c      31

<210> 453
<211> 317
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> {1}...{317}
<223> n = A, T, C or G

<400> 453
tcaatcttgc tttttcccca ttggaactag tcaattaccc atctctgaac tggtagaaaa 60
acatctgaag agctagtcta tcaagcatctg gcaagtgaat tggatgggtc tcagaacct 120
ttcaccacaa cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca 180
taacaaaccc tgcctcaatc tgtcaactaa aagtctgtga cttgaagttt antcagcacc 240
cccaccaaac ttatttttgc tatgtgtttt ttgcaacata tgaagtgttt gaaaataagg 300
taccatgttc ttatata                                     317

<210> 454
<211> 231
<212> DNA
<213> Homo sapiens

<400> 454
ttcagaggtac aatcaactct cagagtgtag ttctctcta tagatgagtc agnattasta 60
taagccacgc cagcctcttg aaggagcttt gaattctct ctgtctacac agtagaacca 120
agaagaccaa attctcttgc atccagctt gcaaacaaaa ttgtctctct aggtctccac 180
cttctctttt tcaagtgttc aaagctcttc acaattctat gcaaacagc t      231

<210> 455
<211> 231
<212> DNA
<213> Homo sapiens

<400> 455
taccnaagag ggcataataa tcaagtctac agtaggggtc accatctccc aagtcaaaaa 60
cattgttccg aatgggcttt ccacaggcta caccacaaaa acaggsaaca tgcacagttt 120
gtttcaacgc attgatgact tctccaaagg tcttcttttg gcatcgacca ccttcagggg 180
caagaatatt ctcatagcac agctcacaat acaggggtccc ttctactct a      231

<210> 456
<211> 231
<212> DNA
<213> Homo sapiens

<400> 456
ttggcaggta cccctacaaa gaagacacca tacattatgc gttattaggt ggaataatca 60
ttccattcag tattatcgtt attattcttg gagaacccct gtctgtttac tgtaaccttt 120
tgcaactaaa ttcttttata aggsataact acatagccac tatttcaaaa gccattggaa 180
cttttttatt tgggtgagct gctagtcagt cctgactgta cattgccaag t      231

<210> 457
<211> 231
<212> DNA

```

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(231)

<223> n = A,T,C or G

<400> 457

```
cgaggtaccc aggggtctga aaatctctnn ttiantagtc gatagcaaaa tcttctatca 60
gcattccctta atatgatctt gctataatta gattttcttc cattagagtt catcacagtt 120
tatttgattt tatlagcaat ctctttcaga agacccctga gatcattaag ctttgtatcc 180
agttgtctaa atcgatgctt catttctctt gaggtgtctg tggcttttgt g          231
```

<210> 458

<211> 231

<212> DNA

<213> Homo sapiens

<400> 458

```
aggtctgggt ccccccact cactccctt ctactctctc taggactggg ctgggccaag 60
gaagaggggg tggtttagga agccgttgag acctgaagcc ccacctctca ccttccttca 120
acacccctaac ctgggttaac agcatttggg attatcattt gggatgagta gaatttccaa 180
ggtcctgggt taggcatttt ggggggccaag accccaaggag aagaagattc t          231
```

<210> 459

<211> 231

<212> DNA

<213> Homo sapiens

<400> 459

```
ggtacagagg ctgcgtgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca 60
ccttcggcga aactgltgtg gcccaaccagt cctaacggga caggacagag agacagagca 120
gccctgcaat gttttccctc caccacagcc atcctgtccc tcattggctc tgtgcttccc 180
actatcacaa gtacccgtcc caatgagaaa caagaaggag caccctccac a          231
```

<210> 460

<211> 231

<212> DNA

<213> Homo sapiens

<400> 460

```
cgaggtataa catgctgcaa caacagatgt gactaggaac ggcgggtgac atggggaggg 60
cctabcaacc tattcttggg gctgtcttct tcacagtat catgaagcct agcagcaaat 120
ccacacctccc caacgcgcaa cggccagcct ggagcccaaa gaagggtcct cctgcagcca 180
gtggagcttg gtccagcttc cagtcacccc ctacccaggt taaggataga a          231
```

<210> 461

<211> 231

<212> DNA

<213> Homo sapiens

<400> 461

```
cgaggtttga gaagctctaa tgtgcagggg agccggagaag caggcgccctg agggagggtc 60
gcgtgtgtct cagaagagtg tgtgcatgcc agaggggaaa caggcgccctg tgtgtcctgg 120
gtgggggttca gtgagggagtg gaaaatttgt tcagcagagac caagcccttg ggtgcaatag 180
agggggattc catgpcactg atagagccct atagtttcac agctgggaat t          231
```

<210> 462

<211> 231
 <212> DNA
 <213> Homo sapiens

<400> 462
 aggtacccctc attgtagcca tgggasaatt gatgttcagt ggggatcagt gaattaaatg 60
 gggtcacgca agtataaaaa ttaaaaaaaa aagacttctc gcccaatctc atatgatgtg 120
 gaagaactgt tagagaganc aacagggtag tgggttagag atttcacagag tcttaccattt 180
 tctagaggag gtatttaatt tcttctcact catccagtg tgtatttagg a 231

<210> 463
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 463
 tactccagcc tgggtgacaga gggagacctc atcacccccc cccacccccc caaaaaaaaa 60
 actgagtaga caggtgtcct ctggccatgg taagtcttaa gtcccctccc agatctgtga 120
 catttgacag gtgtcttttc ctctggacct cgggtgtccc atctgagtag gaaagggcag 180
 tggggagggtg gatcttccag tcgnagcggc atagaagccc gtgtgaaaag c 231

<210> 464
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 464
 gtacftaag attttatcta agttgacctt tctgggtggg aaagtflaac cttagtgact 60
 aaggacatca catatgaaga atgtttaagt tggagggtgc aacgtgaatt gaaacacagg 120
 cctgcttcag tgcctgtgtg ccgttaqtc cagctaactc ggaagtctgt tgaggccagg 180
 ggtgcacagg caccagctag atgtctgtga acttctaggc cccattttcc c 231

<210> 465
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 465
 catgtgtgtg tagctgtggt aatgotgget gaattctcaga cagggttaac ttcagctcct 60
 gtggcgaatt agcaacaatt totgacatca tatttatggt tctgttatct ttgttgatga 120
 agtatggcac aatttttgc tgtgttcata atatactcag attagtctcag ctcatcaga 180
 taactcggag acatgcagga cattagggtg gtgtgttagc tctggtaatg a 231

<210> 466
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 466
 caggtaacct ttccattgg atactgtgct agcaagcatg ctctccgggg tttttttaat 60
 ggcttcgaaa cagaacttgc cacataccca ggtataaatg ttctatacat ttgcccagga 120
 ccgtgcaat caaatattgt ggagaattcc ctactggag aagtcacaaa gactataggc 180
 aataatggag acccgtccca caagatgaca accagtcggt gtgtcggct g 231

<210> 467
 <211> 311
 <212> DNA
 <213> Homo sapiens

<400> 467
 gtacaccctg gcacagctcca atctgaactg gttcggcact catcttctat gagatggatg 60
 tgggtgcttt tctccttttt catcaagact cctcagcagg gagcccgagc cagcctgcac 120
 atgacacttaa cagaaggctc tggagctcta agtgggaatc atttcagctg 180
 cagatgggtct ctgcccgaagc tegttaatgag actatagaaa ggcgggtgtg ggaactcagt 240
 tgtgaactgc tgggctcccc aatagactaa caggcagtgac cagtggacc caagagaaga 300
 ctgcagcaga c

<210> 468
 <211> 3112
 <212> DNA
 <213> Homo sapiens

<400> 468
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 aagatctgca tgggtgggaag gacctgatga taccagagtt gataggagac aattaaggcc 120
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 <213> Homo sapiens

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<213> Homo sapiens

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<211> 812

<212> DNA

<213> Homo sapiens

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160

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<210> 474

<211> 1594

<212> DNA

<213> Homo sapiens

<400> 474

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<210> 475

<211> 2414

<212> DNA

<213> Homo sapiens

<220>

<221> unsure
 <222> (33)
 <223> n=A,T,C or G

<400> 475
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<210> 476
 <211> 3434
 <212> DNA
 <213> Homo sapiens

<400> 476
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 aaaaaaaa aaaa 3434

<210> 477

<211> 140

<212> PRT

<213> Homo sapiens

165

<400> 477
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His Tyr His Arg Asp Thr Asp Thr Arg Arg His His His Met Asp Thr
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Leu Ser His Tyr His Arg Asp Thr Arg His His Thr Val Thr Trp Thr
35 40 45
His His His Thr His Glu His Thr Asp Thr Leu Pro Tyr Gly His Trp
50 55 60
His Thr His Cys His Thr Val Thr Trp Thr His Leu His Thr Ile Thr
65 70 75 80
Pro Pro His Thr Leu Pro Val Asp Thr Arg Thr His Arg His Cys His
85 90 95
Thr Asp Thr Gln Asn Thr Val Thr Arg Arg His His Ala Asp Thr
100 105 110
Pro Pro Leu Trp Cys Arg Leu Asn Tyr Pro Ala Gly Gly Thr Ala Val
115 120 125
Ala Tyr Ser Cys Leu Ser Asp Trp Leu Ser Pro Gln
130 135 140

<210> 476
<211> 143
<212> PRT
<213> Homo sapiens

<400> 478
Met Tyr Arg His Thr Glu Thr Leu Pro His Gly Asp Thr Val Thr Gln
5 10 15
Ser His Gly His Thr Gly Ile Val Thr Trp Thr Asp Thr Gln Thr Tyr
20 25 30
Gly Glu Ile Thr Trp Thr His His His Thr Ile Thr Gly Thr Gln Thr
35 40 45
His Gly Asp Ile Thr Thr Trp Thr His Cys His Thr Thr Gly Thr
50 55 60
Arg Asp Ile Thr Leu Ser His Gly His Thr Ile Thr His Met Asn Thr
65 70 75 80
Pro Thr His Cys His Met Asp Thr Gly Thr His Thr Ala Thr Leu Ser
85 90 95
His Gly His Thr Ser Thr Pro Ser His His Thr His Cys Leu Trp
100 105 110
Thr Gln Gly His Thr Asp Thr Val Thr Gln Ile His Lys Thr Leu Ser
115 120 125
His Gly Asp Ile Thr Met Gln Ile His His His Ser Gly Ala Val
130 135 140

<210> 479
<211> 222
<212> PRT
<213> Homo sapiens

<400> 479
Met Tyr Arg His Thr Glu Thr Leu Pro His Gly Asp Thr Val Thr Gln
5 10 15
Ser His Glu His Thr Gly Ile Val Thr Trp Thr Asp Thr Gln Thr Tyr
20 25 30

166

Gly Glu Ile Thr Leu Thr His His His Thr Ile Thr Gly Thr Gln Thr
 35 40 45
 His Gly Asp Ile Thr Thr Trp Thr His Cys His Thr Thr Thr Gly Thr
 50 55 60
 Arg Asp Ile Thr Leu Ser His Gly His Thr Ile Thr His Met Asn Thr
 65 70 75 80
 Pro Thr His Cys His Met Asp Thr Ala Thr His Thr Ala Thr Leu Ser
 85 90 95
 His Gly His Thr Ser Ile Pro Ser His His His Thr His Cys His Val
 100 105 110
 Asp Thr Arg Thr His Arg His Cys His Thr Asp Thr Gln Asn Thr Val
 115 120 125
 Thr Arg Arg His His His Ala Asp Thr Pro Pro His Gly His Ser Thr
 130 135 140
 Arg His Ser Ala Thr Gln Ile His His His Thr Glu Met Arg Thr His
 145 150 155 160
 Cys His Thr Asp Thr Thr Thr Ser Leu Pro His Phe His Val Ser Ala
 165 170 175
 Gly Gly Val Gly Pro Thr Thr Leu Gly Ser Asn Arg Glu Ile Thr Trp
 180 185 190
 Thr Tyr Ser Glu Gly Lys Ile Phe Phe Tyr Phe Leu Gly Asn Gln Ala
 195 200 205
 Arg Leu Cys Leu Lys Lys Arg Lys Lys Lys Gln Tyr Thr Val
 210 215 220

<210> 486

<211> 144

<212> PRT

<213> Homo sapiens

<400> 480

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 5 10 15
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 20 25 30
 Val Gly Phe Leu Val Val Lys Arg Gln Thr Ile Gly Arg Leu Glu Arg
 35 40 45
 Asp Phe Met Phe Lys Cys Arg Lys Gln Pro Gly Leu Pro Pro Ser Gly
 50 55 60
 Leu Cys Leu Leu Trp Pro Trp Pro Asn Leu Glu Phe Gly Arg Arg Gln
 65 70 75 80
 Asp Arg Leu Thr Trp Ser Ser Val Ser Val Ala Gly Val Cys Ala Cys
 85 90 95
 Arg Ala Arg Pro Gly Trp Leu Gly Glu Gln Pro Ala Thr Ser Ala Gly
 100 105 110
 Val Arg Leu Glu Gln Val Glu Gln Pro Pro Ala His Pro Leu Gln Glu
 115 120 125
 Ala Gly Val Ala Arg Phe Pro Arg Pro Glu Trp Val Pro Pro Asn Gly
 130 135 140

<210> 481

<211> 167

<212> PRT

<213> Homo sapiens

<400> 481

168

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                20                25                30
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   35   40   45
Phe Thr Phe Lys Cys Arg Lys Gln Pro Lys Leu Pro Ser Met Arg Leu
   50   55   60
Ser Leu Leu Trp Pro Trp Arg Asp Leu Lys Phe Val Pro Arg Gln Asp
   65   70   75   80
Lys Leu Thr Arg Ser Ser Val Ser Val Ala Gly Ala Tyr Ala Cys Arg
   85   90   95
Ala Gly Pro Gly Trp Leu Lys Glu Gln Pro Ala Thr Ser Ala Arg Val
  100  105  110
Arg Leu Val Gln Ala Glu His Pro Pro His Pro Leu Glu Glu Val
  115  120  125
Gly Met Ala Arg Phe Pro Gln Pro Glu Cys Leu Pro Pro Tyr Cys
  130  135  140

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<210> 484
 <211> 30
 <212> FRT
 <213> Homo Sapien

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<400> 484
Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gly Gln Gly Phe
  1      5      10      15
Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile
      20      25      30

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<210> 485
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 485
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31

<210> 486
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 486
 gcgaattctc acgctgagta tttaggc

27

<210> 487
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 487

cccgatttct tagctgccca tcgaaagcc ttatc

36

<210> 488
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Made in a lab

<490> 488
gggaagcttc ttcacaggtc gacacagctg tgc

33

<210> 489
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<490> 489
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1 5 10 15
Ser Val Ala

<210> 490
<211> 20 *
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<490> 490
Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala Thr Cys
1 5 10 15
Leu Ser His Ser
20

<210> 491
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<490> 491
Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
1 5 10 15
Thr Gly Phe Thr
20

<210> 492
<211> 20
<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 492

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Leu | Thr | Gly | Phe | Thr | Phe | Ser | Ala | Leu | Gln | Ile | Leu | Pro | Tyr | Thr |
| 1 | | | | 5 | | | | | 10 | | | | 15 | | |
| Leu | Ala | Ser | Leu | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 20 |

<210> 493

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 493

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Thr | Leu | Ala | Ser | Leu | Tyr | Mis | Arg | Glu | Lys | Gln | Val | Phe | Leu | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Tyr | Arg | Gly | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 20 |

<210> 494

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 494

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Pro | Lys | Tyr | Arg | Gly | Asp | Thr | Gly | Gly | Ala | Ser | Ser | Glu | Asp | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Met | Ile | Ser | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 20 |

<210> 495

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<212> PRT

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ser | Leu | Met | Thr | Ser | Phe | Leu | Pro | Gly | Pro | Lys | Pro | Gly | Ala | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Pro | Asn | Gly | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 20 |

<210> 496

<211> 21

<212> PRT

<213> Artificial Sequence

<220>
 <223> Made in a lab

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 <210> 497
 <211> 20
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Made in a lab

 <400> 497
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 1 5 10 15
 Ser Val Arg Val
 20

 <210> 498
 <211> 20
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Made in a lab

 <400> 498
 Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala Arg Val
 1 5 10 15
 Val Pro Gly Arg
 20

 <210> 499
 <211> 20
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Made in a lab

 <400> 499
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 1 5 10 15
 Ser Ala Phe Leu
 20

 <210> 500
 <211> 20
 <212> PRT
 <213> Artificial Sequence

 <220>

<223> Made in a lab

<400> 500

Leu Asp Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met
 1 5 10 15
 Gly Ser Ile Val
 20

<210> 501

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 501

Phe Met Gly Ser Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met
 1 5 10 15
 Val Ser Ala Ala
 20

<210> 502

<211> 414

<212> DNA

<213> Homo Sapien

<220>

<221> misc_feature

<222> (1)...(414)

<223> n=A,T,C or G

<400> 502

| | | | | | | |
|------------|-------------|------------|-------------|-------------|------------|-----|
| caccatggag | acaggccctgc | gctgggtttt | cttggtgcct | gtgctcaag | gtgtccastg | 60 |
| tcagtgggtg | gaggagtcag | gggtgcgct | ggtaacgct | gggacacott | tgaacntcac | 120 |
| ctgtagagtt | tttggaatng | acotcagtag | caatgcaastg | agctgggtcc | gccaggtcc | 180 |
| agggaaaggg | ctggaatgga | tgggagccat | tgataattgt | ccacantacg | cgacctgggc | 240 |
| gaagggccga | ttatnatatt | ccaaacacct | gascacgggtg | gatttgaasa | tgacctgctc | 300 |
| gacaacggag | gcacacggca | ctatattttg | tggcagastg | aatactggta | stagtgggtg | 360 |
| gaagaatatt | tggggccacg | gcacccctgt | cacogtntcc | tcagggcacac | ctaa | 414 |

<210> 503

<211> 379

<212> DNA

<213> Homo Sapien

<220>

<221> misc_feature

<222> (1)...(379)

<223> n=A,T,C or G

<400> 503

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|-----|
| atnogatggt | gcttggtcaa | aggtgtccag | tgtcagtcgg | tggaggagtc | cgggggctgc | 60 |
| ctgggtcacgc | ctgggacacc | ccgtgacatc | acctgcaacc | tncttggtatt | ngacatcagt | 120 |
| agcatatggag | tgagctgggt | ccgcacagct | ccaggggaag | ggctgggnata | catcggtatc | 180 |
| ttagtagtag | tggtacattt | tacgogagct | ggcggaagg | ccgattccac | atttccaaaa | 240 |
| ccctngaccac | ggtggatttg | aaatcacacc | gittgacac | cgaggacacg | gccacctatt | 300 |
| tnctgtccag | aggggggttt | aattataaag | acatttgggg | ccraggccac | ctgtgtccag | 360 |

intcctctagg gcaacctaa

379

<210> 504
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 504

Gly Phe Thr Asn Tyr Thr Asp Phe Glu Asp Ser Pro Tyr Phe Lys Glu
1 5 10 15
Asn Ser Ala

<210> 505
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 505

Lys Glu Asn Ser Ala Phe Pro Pro Phe Cys Cys Asn Asp Asn Val Thr
1 5 10 15
Asn Thr Ala Asn
20

<210> 506
<211> 407
<212> DNA
<213> Homo Sapien

<400> 506

atggagacag gctcgccctg gcttctctctg gtccctggcg tcaaaaggtgt ccagtgtoag 60
tcgctggagg agtcgggggg tcgctctggtc agcctctggga cacccttgac actcaactgc 120
accgtctctg gattctccct cagtagcaat gcaatgatct gggtcggcca ggctccaggg 180
aaggggctgg aatacctcgg atacattagt tatgttggtg ggcatacta cgcgagctag 240
gtgaaagacc gattcaccat ctccaaaacc tcgaccacgg tggatctgag aatgaccagt 300
ctgacaaacc aggcacacgg cactctatttc tgtgccagaa atagtgttt tagtggtagt 360
ttgtggggcc caggcaccct ggtcacccgc tcttcagggtc aacctaa 407

<210> 507
<211> 422
<212> DNA
<213> Homo Sapien

<400> 507

atggagacag gctcgccctg gcttctctctg gtccctggcg tcaaaaggtgt ccagtgtoag 60
tcgctggagg agtcgggggg tcgctctggtc agcctctggga cacccttgac actcaactgt 120
acagtcctctg gattctccct cagcaactac gacctgaact gggtcggcca ggctccaggg 180
aaggggctgg atgggatcgg gatcattaat tatgttggtg ggcaggacta cgcgagctag 240
gcasaagccc ggttcacct ctccaaaacc tcgaccacgg tggatctcaa gatcgccagt 300
cgcacaaacc aggcacacgg cactctatttc tgtgccagag ggtggaagt cgtatgctct 360
ggtccgtgct tgcgcatct gggcccaggc accctggta ccgtctctct agggcaacct 420

aa

422

<210> 509
 <211> 411
 <212> DNA
 <213> Homo Sapien
 <220>
 <221> misc_feature
 <222> (1)...(411)
 <223> n=A,T,C or G

<400> 508
 atggagacag gctctgctgg cttctcctgg tcgtgtgtgt caaagggtgc cagtgtcagt 60
 cgttgaggga gtccgggggt cgcctgggtc cgcctgggac accctgaca ctccctgca 120
 cagtctctgg aatcgacctc agtagctact gcctggctg ggtccggcag gctccaggga 180
 aggggtctga atggctggga atcatttgta ctctgggtga cactactac gcgagggtgg 240
 cgaaggccgc attcaccatc tccaaacct cgaaccaggt gcatntgaat atnccagtc 300
 cgaacaaccg ggaacaggcc acctatttct gtccacaga tctcgggat ggtagtagta 360
 ctggttatfa taacctctgg ggcacaggaa cctcgttacc cgtctccttg g 411

<210> 509
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 509
 Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
 1 5 10 15

<210> 510
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 510
 Pro Glu Tyr Asn Arg Pro Leu Leu Ala Asn Asp Leu Met Leu Ile
 1 5 10 15

<210> 511
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 511

Tyr His Pro Ser Met Phe Cys Ala Gly Gly Gly Gln Asp Gln Lys
 1 5 10 15

175

<210> 512
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 512
 Asp Ser Gly Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu
 1 5 10 15

<210> 513
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 513
 Ala Pro Cys Gly Gln Val Gly Val Pro Asx Val Tyr Thr Asn Leu
 1 5 10 15

<210> 514
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 514
 Leu Cys Lys Phe Thr Gln Trp Ile Glu Lys Thr Val Gln Ala Ser
 1 5 10 15

<210> 515
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 515
 Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg
 1 5 10 15

<210> 516
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 516
 Val Ser Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln

176

| | | | |
|---|---|----|----|
| 1 | 5 | 10 | 15 |
|---|---|----|----|

<210> 517
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Made in a lab

 <400> 517
 Glu Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met
 1 5 10 15

 <210> 518
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Made in a lab

 <400> 518
 Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 1 5 10 15

 <210> 519
 <211> 17
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Made in a lab

 <400> 519
 Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg Asn Tyr Asp Glu Gly Cys
 1 5 10 15
 Gly

 <210> 520
 <211> 25
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Made in a lab

 <400> 520
 Val Gly Glu Gly Leu Tyr Gln Gly Val Pro Arg Ala Glu Pro Gly Thr
 1 5 10 15
 Glu Ala Arg Arg His Tyr Asp Glu Gly
 20 25

 <210> 521
 <211> 21
 <212> PRT
 <213> Artificial Sequence

177

<220>

<223> Made in a lab

<400> 521

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Pro | Phe | Pro | Asn | Gly | His | Val | Gly | Ala | Gly | Gly | Ser | Gly | Leu | Leu |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Pro | Pro | Pro | Pro | Ala | | | | | | | | | | | |
| | | | | 20 | | | | | | | | | | | |

<210> 522

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 522

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Leu | Val | Val | Pro | Ala | Ile | Lys | Lys | Asp | Tyr | Gly | Ser | Gln | Glu | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Thr | Gln | Val | | | | | | | | | | | | |
| | | | | 20 | | | | | | | | | | | |

<210> 523

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<220>

<221> VARIANT

<222> (1)...(254)

<223> Xaa = any amino acid

<400> 523

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Thr | Ala | Gly | Asn | Pro | Trp | Gly | Trp | Phe | Leu | Gly | Tyr | Leu | Ile |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Leu | Gly | Val | Ala | Gly | Ser | Leu | Val | Ser | Gly | Ser | Cys | Ser | Gln | Ile | Ile |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asn | Gly | Glu | Asp | Cys | Ser | Pro | His | Ser | Gln | Pro | Trp | Gln | Ala | Ala | Leu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Val | Met | Glu | Asn | Glu | Leu | Phe | Cys | Ser | Gly | Val | Leu | Val | His | Pro | Gln |
| | | | 50 | | | | 55 | | | | 60 | | | | |
| Trp | Val | Leu | Ser | Ala | Thr | His | Cys | Phe | Gln | Asn | Ser | Tyr | Thr | Ile | Gly |
| | | | 65 | | | 70 | | | | 75 | | | | 80 | |
| Leu | Gly | Leu | His | Ser | Leu | Glu | Ala | Asp | Gln | Glu | Pro | Gly | Ser | Gln | Met |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Val | Glu | Ala | Ser | Leu | Ser | Val | Arg | His | Pro | Glu | Tyr | Asn | Arg | Pro | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Ala | Asn | Asp | Leu | Met | Leu | Ile | Lys | Leu | Asp | Glu | Ser | Val | Ser | Glu |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Ser | Asp | Thr | Ile | Arg | Ser | Ile | Ser | Ile | Ala | Ser | Gln | Cys | Pro | Thr | Ala |
| | | | 130 | | | | 135 | | | | | 140 | | | |
| Gly | Asn | Ser | Cys | Leu | Val | Ser | Gly | Trp | Gly | Leu | Leu | Ala | Asn | Gly | Arg |
| | | | 145 | | | 150 | | | | 155 | | | | 160 | |

Met Pro Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu
 165 170 175
 Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys
 180 185 190
 Ala Gly Gly Gly Gln Asa Gln Asa Asp Ser Cys Asn Gly Asp Ser Gly
 195 200 205
 Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly
 210 215 220
 Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu
 225 230 235 240
 Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
 245 250

<210> 524

<211> 765

<212> DNA

<213> Homo sapien

<400> 524

atggccacag caggaaatcc ctggggctgg ttcctggggg acctcatct tgggtctgca 60
 ggtctgctcg tctctggtag ctgcagccaa atcataaacg ggcaggactg cagcccgccac 120
 tcgcagccct ggcaggcgcc actggtcatg gaacacgcat tgtctgctc ggcgctctctg 180
 gtgcattccg agtgggtgct gtccagccga cactgtttcc agaatctcta caacctgggg 240
 ctgggctctc acagtcttga ggcacaccaa gagccaggga gccagatggt gaggggccagc 300
 ctctccgtac gccaccaga gtacacacaga ccttgcctcg ctacagacct catgtctcat 360
 aagtggagc aatccgtgct cagctctgac accatccgga gcatcagcat tgcctgcagc 420
 tgcctaccc cggggaccc ttgctctgtt tctggctggg gctgctggc gaacggcaga 480
 atgctaccc tcttgcagtg cgtgaacgtg tgggtgggtg ctgaggaggt ctgcctgag 540
 ctctatgacc cgtctgacca cctcagcatg tcttgcggcg ggggagggca agaccagaag 600
 gactctgca acgttgacct tggggggccc ctgacttgca accgttactt gcaggggcct 660
 gtgtctttcg gaagaagccc gtgtggccaa gtggggctgc caggtgtcta caaccaactc 720
 tgcacattcc ctgagtggtt agagaaaacc gtccaggcca gttaa 765

<210> 525

<211> 254

<212> FRT

<213> Homo sapien

<400> 525

Met Ala Thr Ala Gly Asn Pro Trp Gly Trp Phe Leu Gly Tyr Leu Ile
 1 5 10 15
 Leu Gly Val Ala Gly Ser Leu Val Ser Gly Ser Cys Ser Gln Ile Ile
 20 25 30
 Asn Gly Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu
 35 40 45
 Val Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln
 50 55 60
 Trp Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly
 65 70 75 80
 Leu Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met
 85 90 95
 Val Glu Ala Ser Leu Ser Val Arg His Pro Gln Tyr Asn Arg Pro Leu
 100 105 110
 Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu
 115 120 125
 Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala
 130 135 140
 Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg

179

| | | | |
|-----------------|-----------------|-------------------------|-----------------|
| 145 | 150 | 155 | 160 |
| Met Pro Thr Val | Leu Gln Cys Val | Asn Val Ser Val Val Ser | Glu Glu |
| | 165 | 170 | 175 |
| Val Cys Ser Lys | Leu Tyr Asp Pro | Leu Thr His Pro Ser Met | Phe Cys |
| | 180 | 185 | 190 |
| Ala Gly Gly Gly | Gln Asp Gln Lys | Asp Ser Cys Asn Gly | Asp Ser Gly |
| | 195 | 200 | 205 |
| Gly Pro Leu Ile | Cys Asn Gly Tyr | Leu Gln Gly Leu | Val Ser Phe Gly |
| | 210 | 215 | 220 |
| Lys Ala Pro Cys | Gly Gln Val Gly | Val Pro Gly Val | Tyr Thr Asn Leu |
| | 225 | 230 | 235 |
| Cys Lys Phe Thr | Glu Trp Ile Glu | Lys Thr Val Gln | Ala Ser |
| | 245 | 250 | |

<210> 526

<211> 963

<212> DNA

<213> Homo sapiens

<400> 526

atgagttcct gaaacttcac acaatgcacc ttgtggetta ttggtatccc aggattagag 60
 aaaguccaatt tctggytttg cttcccccct ctttccatgt atgtagtggc aatgtttgga 120
 aactgcacag tgggtcttcat cgttaaggagc gaacgcagcc tgcacgctcc gatgtacctc 180
 ttctctgaca tggcttgacgc cettgacctg gccttatcca catccacccat gcttaagatc 240
 cttgcctctt tctggtttga ttcccgagag attagctttg aggcctgtct taacccagatg 300
 ttctttatcc atgcctcttc agccattgaa tccaccatcc tgcctggccat gccctttgac 360
 cgttatgttg ccatcgucac cccacgtggc catgctgcag tgcacaccaa taacgttaaa 420
 gccacagatt gcactgttgg ttgtgttcgg ggtacccctt tttttttccc actgctcttg 480
 ctgatcaagc ggtctgacct ctgcccaccc aatgtccctt cgcactccta ttgtgtccac 540
 caggatgtac tgaagtttgg ctatgcagac actttgcaca atgtgggtata ttgttttaet 600
 gccattctgc ttgtctgttg cgttggaagta atgttcatct ccttgcctca ttttctgata 660
 atacgaacgg ttctgcaact gccttccaaq tccagagcgg ccaaggacct ttggaacctgt 720
 gtgtccacaa ttggtgttgt actgcacctc tatgtgcacc ttatgtgacct ctccgtttga 780
 caccgctttg gaacacggct tcatcccaatt gtgcgttttg tcatgggtga catctaacctg 840
 ctgctgcctc ctgtatccaa tcccatcctc tatgttgcca aaacccacaa gatccagaa 900
 cgggtgcttg ctatgttcaa gatccagctg gacaaggact tgcaggtcgt gggaggcaag 960
 tga 963

<210> 527

<211> 320

<212> PRT

<213> Homo sapiens

<400> 527

| | | | |
|-----------------|-----------------|-----------------|-----------------|
| Met Ser Ser Cys | Asn Phe Thr His | Ala Thr Phe Val | Leu Ile Gly Ile |
| | 5 | 10 | 15 |
| Pro Gly Leu Glu | Lys Ala His Phe | Trp Val Gly Phe | Pro Leu Leu Ser |
| | 20 | 25 | 30 |
| Met Tyr Val Val | Ala Met Phe Gly | Asn Cys Ile Val | Val Phe Ile Val |
| | 35 | 40 | 45 |
| Arg Thr Glu Arg | Ser Leu His Ala | Pro Met Tyr Leu | Phe Leu Cys Met |
| | 50 | 55 | 60 |
| Leu Ala Ala Ile | Asp Leu Ala Leu | Ser Thr Ser Thr | Met Pro Lys Ile |
| | 65 | 70 | 75 |
| Leu Ala Leu Phe | Trp Phe Asp Ser | Arg Glu Ile Ser | Phe Glu Ala Cys |
| | 85 | 90 | 95 |
| Leu Thr Gln Met | Phe Phe Ile His | Ala Leu Ser Ala | Ile Glu Ser Thr |
| | 100 | 105 | 110 |

180

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Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro
113 120 125
Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly
130 135 140
Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu
145 150 155 160
Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser
165 170 175
Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu
180 185 190
Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val
195 200 205
Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val
210 215 220
Leu Gln Leu Pro Ser Lys Ser Gln Arg Ala Lys Ala Phe Gly Thr Cys
225 230 235 240
Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly
245 250 255
Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg
260 265 270
Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro
275 280 285
Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala
290 295 300
Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys
305 310 315 320

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<210> 528
<211> 20
<212> DNA
<213> Homo Sapien

```

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<400> 528
actatggtcc agaggtctgtg

```

20

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<210> 529
<211> 20
<212> DNA
<213> Homo Sapien

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```

<400> 529
atcaactatg tgcgcctctt

```

20

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<210> 530
<211> 1852
<212> DNA
<213> Homo sapiens

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<400> 530
ggcagcgagaa ttasaccct cagcnaaaca ggcatagaag ggcataact taaagtaata 60
aaacacacact atgcacagcc cagcagcaac atataactaa atgggggaaaa gttagaagca 120
tttcctctga gaactgcac aataaataca aggatgetgg attttgtcaa atgccttttc 180
tgtgtctgtt gagctgctta tgtgaacttt cttttaattc tgtttatgtg atlatcaat 240
ttttgacttt gccctgttta gacgggaaga gctgggggtgt ttctcaggag ccaocgtgtg 300
ctcggcgagc ttgggataa ettgaggctg catcactggg gaagaasac aytcctgtcc 360
gtggcactga tggctgagga cagagcttca gtgtgcttc tctgcgaatg gctttctgg 420
ggagtcttct cttcatagtt catccatagt gctcagagg aaattatat tattttgta 480
tggatgagga gtattacgtt gtgcagatat actgcagtgt cttctctct tgaagtgtga 540

```



```

ttgggttaggt  tccaccatgt  tgcgcagat  gacatgattt  aagtacotgt  gtctgggtga  600
aaagtgtttg  ttctggaatg  gatattgtgg  ttctctggatc  toatcctctg  tgggtggaca  660
gctttctcca  ccttctgtgga  agtgacctgc  tgtccagaag  ttgtgtggct  gaggagtata  720
ccatcgtgca  tgcctcttcc  attctctgca  ttcttctctc  cctggatgga  caaggggagc  780
ggcaagagca  acctggggac  ttctggagac  cacaacgact  cctctgtgaa  gacgtcttgg  840
agcaagaggt  gcaagtgggt  ctgcccctgc  ttccctcgt  gaagggggag  gggcaagagc  900
aacctggctg  cttggggaga  ctacgatgac  agcgctctca  tggatccacg  gtaccacgtc  960
catggagagc  atctggacaa  gctccacaga  gctgctcgtt  ggggttaagt  cccacagaag  1020
gatctcatcg  tcatgctcag  ggcacaggat  gtgacacaga  gggcaagca  aaagaggact  1080
gctctacatc  tggcctctgc  caatgggaa  tcagaagtag  taaaactcgt  gctggacaga  1140
cgatgtcaac  ttaattgtct  tgaacaacaa  aagaggacag  ctctgacaaa  ggcctacaa  1200
tgccaggagc  atgaatgtgc  gttaatgttg  ctggaaactg  gcactgctcc  aatatctcca  1260
gatgagtatg  gaaataccac  tctacactat  gctgtctaca  atgaagataa  attaatggcc  1320
aaagcactgc  tcttatacgg  tctgtatctc  gaatcaaaaa  acaagcattg  cctcaaccca  1380
ctgctacttg  gtatcacatg  gcaaaaacag  caagtgttga  aattttta  caagaacaaa  1440
ggcaatttaa  atgcgctgga  tagatatgga  agaatctctc  tctacttgct  tctctatgag  1500
ggatcagcca  gtatgctcag  cctctacttt  gagcaaaatg  ttgatgtatc  ttctcaagah  1560
ctggaaagac  ggcacagagc  tatgctgttt  ctatgctatc  tctatgaatt  tgcacagttac  1620
ttctgactca  caaagaacaa  cagstgttaa  aaatctcttc  tgaacaacag  atccagaaac  1680
aagacttaaa  gctgacatca  gaggaaagct  cacaagggct  taagggaggt  gaaaacagcc  1740
agccagagct  agaaagttaa  tggctatgga  agaagaatga  agaacccgga  agtactcagt  1800
tgggactcac  agaaaacntg  actaacgggtg  ccgtctgtgg  caatggtgat  ga  1852

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<210> 531
 <211> 879
 <212> DNA
 <213> Homo sapiens

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 <213> Homo sapiens

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          35              40              45
Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val Val Ala Trp Gly Asp

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182

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| 65 | 70 | 75 |
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| | 85 | 90 |
| Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Arg Asp | | 95 |
| | 100 | 105 |
| Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser | | 110 |
| | 115 | 120 |
| Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys Gln Leu Asn Val Leu | | 125 |
| | 130 | 135 |
| Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala Val Gln Cys Gln Glu | | 140 |
| | 145 | 150 |
| Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile | | 155 |
| | 160 | 165 |
| Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Val Tyr Asn Glu | | 170 |
| | 175 | 180 |
| Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu | | 185 |
| | 190 | 195 |
| Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Ile His Glu | | 200 |
| | 205 | 210 |
| Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu | | 215 |
| | 220 | 225 |
| Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys | | 230 |
| | 235 | 240 |
| Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu Glu Gln Asn Val Asp | | 245 |
| | 250 | 255 |
| Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu Ser Met Leu Phe Leu | | 260 |
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<211> 801

<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

183

<400> 534

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      50      55      60
Cys Arg Lys Gln Pro Gly Ser Pro Ser Arg Gly Leu Gly Leu Leu Trp
      65      70      75      80
Pro Trp Pro Asp Ile Glu Phe Val Pro Arg Gln Asp Lys Leu Thr Gln
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Ser Ser Val Leu Val Pro Gln Ile Cys Ala Cys Gln Thr Arg Pro Asn
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Trp Leu Asn Glu Gln Pro Ala Thr Ser Ala Gly Val Arg Leu Glu Glu
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Val Asp Gln Pro Pro Thr Leu Pro Ser Gln Gly Ser Gly Trp Pro Cys
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Leu Gly Lys Ala Asp Gly Pro Trp Pro Tyr Leu Phe Val Arg Arg Thr
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Asp Val Pro Cys Pro Ala Ala Ser Gln Val Gly Gly Cys Ala Pro Ser
      180      185      190
Ser Trp His Thr Leu Ala Glu Val Thr Gly Cys Ser Leu Ser Pro Leu
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Ser Leu Ala Gln His Ala Gln Ala Ser Val Leu Leu Leu Cys Tyr Lys
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Trp Ser His Ile Gly Glu Thr Ser Ser His Leu Arg Ser Lys Val Tyr
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<211> 6082

<212> DNA

<213> Homo sapiens

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<400> 537

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Ile Gly His Lys Arg Arg Leu Glu Glu Asp Asp Met Tyr Ser Val Leu
      35      40      45
Pro Glu Asp Arg Ser Gln His Leu Gly Glu Glu Leu Gln Gly Phe Trp
      50      55      60
Asp Lys Glu Val Leu Arg Ala Glu Asn Asp Ala Gln Lys Pro Ser Leu
      65      70      75
Thr Arg Ala Ile Ile Lys Cys Tyr Trp Lys Ser Tyr Leu Val Leu Gly
      80      85      90
Ile Phe Thr Leu Ile Glu Glu Ser Ala Lys Val Ile Gln Pro Ile Phe
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Leu Gly Lys Ile Ile Asn Tyr Phe Glu Asn Tyr Asp Pro Met Asp Ser
      110     115     120
Val Ala Leu Asn Thr Ala Tyr Ala Tyr Ala Thr Val Leu Thr Phe Cys
      125     130     135
Thr Leu Ile Leu Ala Ile Leu His His Leu Tyr Phe Tyr His Val Gln
      140     145     150
Cys Ala Gly Met Arg Leu Arg Val Ala Met Cys His Met Ile Tyr Arg
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Lys Ala Leu Arg Leu Ser Asn Met Ala Met Gly Lys Thr Thr Thr Gly
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 Gln Ile Val Asn Leu Leu Ser Asn Asp Val Asn Lys Phe Asp Gln Val
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 Thr Val Phe Leu His Phe Leu Trp Ala Gly Pro Leu Gln Ala Ile Ala
 210 215 220
 Val Thr Ala Leu Leu Trp Met Glu Ile Gly Ile Ser Cys Leu Ala Gly
 225 230 235 240
 Met Ala Val Leu Ile Ile Leu Leu Pro Leu Gln Ser Cys Phe Gly Lys
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 Leu Phe Ser Ser Leu Arg Ser Lys Thr Ala Thr Phe Thr Asp Ala Arg
 260 265 270
 Ile Arg Thr Met Asn Glu Val Ile Thr Gly Ile Arg Ile Ile Lys Met
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 Tyr Ala Trp Glu Lys Ser Phe Ser Asn Leu Ile Thr Asn Leu Arg Lys
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 Lys Glu Ile Ser Lys Ile Leu Arg Ser Ser Cys Leu Arg Gly Met Asn
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 Leu Ala Ser Phe Phe Ser Ala Ser Lys Ile Ile Val Phe Val Thr Phe
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 Thr Thr Tyr Val Leu Leu Gly Ser Val Ile Thr Ala Ser Arg Val Phe
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 Gln Leu Pro Ser Asp Gly Lys Lys Met Val His Val Gln Asp Phe Thr
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 Ala Phe Trp Asp Lys Ala Ser Glu Thr Pro Thr Leu Gln Gly Leu Ser
 420 425 430
 Phe Thr Val Arg Pro Gly Glu Leu Leu Ala Val Val Gly Pro Val Gly
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 Ala Gly Lys Ser Ser Leu Leu Ser Ala Val Leu Gly Glu Leu Ala Pro
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 Gln Pro Trp Val Phe Ser Gly Thr Leu Arg Ser Asn Ile Leu Phe Gly
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 Leu Lys Lys Asp Leu Gln Leu Leu Glu Asp Gly Asp Leu Thr Val Ile
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 Gly Asp Arg Gly Thr Thr Leu Ser Gly Gly Gln Lys Ala Arg Val Asn
 530 535 540
 Leu Ala Arg Ala Val Tyr Gln Asp Ala Asp Ile Tyr Leu Leu Asp Asp
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 Pro Leu Ser Ala Val Asp Ala Glu Val Ser Arg His Leu Phe Glu Leu
 565 570 575
 Cys Ile Cys Gln Ile Leu His Glu Lys Ile Thr Ile Leu Val Thr His
 580 585 590
 Gln Leu Gln Tyr Leu Lys Ala Ala Ser Gln Ile Leu Ile Leu Lys Asp
 595 600 605
 Gly Lys Met Val Gln Lys Gly Thr Tyr Thr Glu Phe Leu Lys Ser Gly
 610 615 620
 Ile Asp Phe Gly Ser Leu Leu Lys Lys Asp Asn Glu Glu Ser Glu Gln
 625 630 635 640

Pro Pro Val Pro Gly Thr Pro Thr Leu Arg Asn Arg Thr Phe Ser Glu
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 Phe Arg Leu Ser Glu Pro Glu Gly Lys Ile Trp Ile Asp Lys Ile Leu
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190

Thr Thr Glu Ile Gly Leu His Asp Leu Arg Lys Lys Met Ser Ile Ile
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 Pro Glu Glu Pro Val Leu Phe Thr Gly Thr Met Arg Lys Asp Leu Asp
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 Pro Phe Asn Glu His Thr Asp Glu Glu Leu Trp Asn Ala Leu Glu Glu
 1140 1145 1150
 Val Glu Leu Lys Glu Thr Ile Glu Asp Leu Pro Gly Lys Met Asp Thr
 1155 1160 1165
 Glu Leu Ala Glu Ser Gly Ser Asn Phe Ser Val Gly Glu Arg Glu Leu
 1170 1175 1180
 Val Cys Leu Ala Arg Ala Ile Leu Arg Lys Asn Glu Ile Leu Ile Ile
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 35 40 45
 Tyr Leu Val Leu Gly Ile Phe Thr Leu Ile Glu Glu Ser Ala Lys Val
 50 55 60
 Ile Glu Pro Ile Phe Leu Gly Lys Ile Ile Asn Tyr Phe Glu Asn Tyr
 65 70 75 80
 Asp Pro Met Asp Ser Val Ala Leu Asn Thr Ala Tyr Ala Tyr Ala Thr
 85 90 95
 Val Leu Thr Phe Cys Thr Leu Ile Leu Ala Ile Leu His His Leu Tyr
 100 105 110
 Phe Tyr His Val Glu Cys Ala Gly Met Arg Leu Arg Val Ala Met Cys
 115 120 125
 His Met Ile Tyr Arg Lys Ala Leu Arg Leu Ser Asn Met Ala Met Gly
 130 135 140
 Lys Thr Thr Thr Gly Glu Ile Val Asn Leu Leu Ser Asn Asp Val Asn
 145 150 155 160
 Lys Phe Asp Glu Val Thr Val Phe Leu His Phe Leu Trp Ala Gly Pro
 165 170 175
 Leu Glu Ala Ile Ala Val Thr Ala Leu Leu Trp Met Glu Ile Gly Ile
 180 185 190
 Ser Cys Leu Ala Gly Met Ala Val Leu Ile Ile Leu Leu Pro Leu Glu
 195 200 205
 Ser Cys Phe Gly Lys Leu Phe Ser Ser Leu Arg Ser Lys Thr Ala Thr
 210 215 220
 Phe Thr Asp Ala Arg Ile Arg Thr Met Asn Glu Val Ile Thr Gly Ile
 225 230 235 240
 Arg Ile Ile Lys Met Tyr Ala Trp Glu Lys Ser Phe Ser Asn Leu Ile
 245 250 255
 Thr Asn Leu Arg Lys Lys Glu Ile Ser Lys Ile Leu Arg Ser Ser Cys
 260 265 270
 Leu Arg Gly Met Asn Leu Ala Ser Phe Phe Ser Ala Ser Lys Ile Ile

| | | | | | | | | | | | | | | | | | | | | |
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| Val | Phe | Val | Thr | Phe | Thr | Thr | Tyr | Val | Leu | Leu | Gly | Ser | Val | Ile | Thr | | | | | |
| 290 | | | | | | | 295 | | | | | | | 300 | | | | | | |
| Ala | Ser | Arg | Val | Phe | Val | Ala | Val | Thr | Leu | Tyr | Gly | Ala | Val | Arg | Leu | | | | | |
| 305 | | | | | | | 310 | | | | | | | 315 | | | | | | |
| Thr | Val | Thr | Leu | Phe | Phe | Pro | Ser | Ala | Ile | Glu | Arg | Val | Ser | Glu | Ala | | | | | |
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| Ile | Val | Ser | Ile | Arg | Arg | Ile | Gln | Thr | Phe | Leu | Leu | Leu | Asp | Glu | Ile | | | | | |
| 335 | | | | | | | 340 | | | | | | | 345 | | | | | | |
| Ser | Gln | Arg | Asn | Arg | Gln | Leu | Pro | Ser | Asp | Gly | Lys | Lys | Met | Val | His | | | | | |
| 350 | | | | | | | 355 | | | | | | | 360 | | | | | | |
| Val | Gln | Asp | Phe | Thr | Ala | Phe | Trp | Asp | Lys | Ala | Ser | Glu | Thr | Pro | Thr | | | | | |
| 365 | | | | | | | 370 | | | | | | | 375 | | | | | | |
| Leu | Gln | Gly | Leu | Ser | Phe | Thr | Val | Arg | Pro | Gly | Glu | Leu | Leu | Ala | Val | | | | | |
| 380 | | | | | | | 385 | | | | | | | 390 | | | | | | |
| Val | Gly | Pro | Val | Gly | Ala | Gly | Lys | Ser | Ser | Leu | Leu | Ser | Ala | Val | Leu | | | | | |
| 395 | | | | | | | 400 | | | | | | | 405 | | | | | | |
| Gly | Glu | Leu | Ala | Pro | Ser | His | Gly | Leu | Val | Ser | Val | His | Gly | Arg | Ile | | | | | |
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| Ala | Tyr | Val | Ser | Gln | Gln | Pro | Trp | Val | Phe | Ser | Gly | Thr | Leu | Arg | Ser | | | | | |
| 425 | | | | | | | 430 | | | | | | | 435 | | | | | | |
| Asn | Ile | Leu | Phe | Gly | Lys | Lys | Tyr | Glu | Lys | Glu | Arg | Tyr | Glu | Lys | Val | | | | | |
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| Ile | Lys | Ala | Cys | Ala | Leu | Lys | Lys | Asp | Leu | Gln | Leu | Leu | Glu | Asp | Gly | | | | | |
| 455 | | | | | | | 460 | | | | | | | 465 | | | | | | |
| Asp | Leu | Thr | Val | Ile | Gly | Asp | Arg | Gly | Thr | Thr | Leu | Ser | Gly | Gly | Gln | | | | | |
| 470 | | | | | | | 475 | | | | | | | 480 | | | | | | |
| Lys | Ala | Arg | Val | Asn | Leu | Ala | Arg | Ala | Val | Tyr | Gln | Asp | Ala | Asp | Ile | | | | | |
| 485 | | | | | | | 490 | | | | | | | 495 | | | | | | |
| Tyr | Leu | Leu | Asp | Asp | Pro | Leu | Ser | Ala | Val | Asp | Ala | Glu | Val | Ser | Arg | | | | | |
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| His | Leu | Phe | Glu | Leu | Cys | Ile | Cys | Gln | Ile | Leu | His | Glu | Lys | Ile | Thr | | | | | |
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| Ile | Leu | Val | Thr | His | Gln | Leu | Gln | Tyr | Leu | Lys | Ala | Ala | Ser | Gln | Ile | | | | | |
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| Leu | Ile | Leu | Lys | Asp | Gly | Lys | Met | Val | Gln | Lys | Gly | Thr | Tyr | Thr | Gln | | | | | |
| 545 | | | | | | | 550 | | | | | | | 555 | | | | | | |
| Phe | Leu | Lys | Ser | Gly | Ile | Asp | Phe | Gly | Ser | Leu | Leu | Lys | Lys | Asp | Asn | | | | | |
| 560 | | | | | | | 565 | | | | | | | 570 | | | | | | |
| Glu | Gln | Ser | Glu | Gln | Pro | Pro | Val | Pro | Gly | Thr | Pro | Thr | Leu | Arg | Asn | | | | | |
| 575 | | | | | | | 580 | | | | | | | 585 | | | | | | |
| Arg | Thr | Phe | Ser | Glu | Ser | Ser | Val | Trp | Ser | Gln | Gln | Ser | Ser | Arg | Pro | | | | | |
| 590 | | | | | | | 595 | | | | | | | 600 | | | | | | |
| Ser | Leu | Lys | Asp | Gly | Ala | Leu | Glu | Ser | Gln | Asp | Thr | Glu | Asn | Val | Pro | | | | | |
| 605 | | | | | | | 610 | | | | | | | 615 | | | | | | |
| Val | Thr | Leu | Ser | Glu | Glu | Asn | Arg | Ser | Gln | Gly | Lys | Val | Gly | Phe | Gln | | | | | |
| 620 | | | | | | | 625 | | | | | | | 630 | | | | | | |
| Ala | Tyr | Lys | Asn | Tyr | Phe | Arg | Ala | Gly | Ala | His | Trp | Ile | Val | Phe | Ile | | | | | |
| 635 | | | | | | | 640 | | | | | | | 645 | | | | | | |
| Phe | Leu | Ile | Leu | Leu | Asn | Thr | Ala | Ala | Gln | Val | Ala | Tyr | Val | Leu | Gln | | | | | |
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| Asp | Trp | Trp | Leu | Ser | Tyr | Trp | Ala | Asn | Lys | Gln | Ser | Met | Leu | Asn | Val | | | | | |
| 665 | | | | | | | 670 | | | | | | | 675 | | | | | | |
| Thr | Val | Asn | Gly | Gly | Gly | Asn | Val | Thr | Glu | Lys | Leu | Asp | Leu | Asn | Trp | | | | | |
| 680 | | | | | | | 685 | | | | | | | 690 | | | | | | |
| Tyr | Leu | Gly | Ile | Tyr | Ser | Gly | Leu | Thr | Val | Ala | Thr | Val | Leu | Phe | Gly | | | | | |
| 695 | | | | | | | 700 | | | | | | | 705 | | | | | | |
| Ile | Ala | Arg | Ser | Leu | Leu | Val | Phe | Tyr | Val | Leu | Val | Asn | Ser | Ser | Gln | | | | | |
| 710 | | | | | | | 715 | | | | | | | 720 | | | | | | |
| 725 | | | | | | | 730 | | | | | | | 735 | | | | | | |

| | | | | | |
|-----|------|-----|-----|-----|-----|
| | 740 | | 745 | | 750 |
| Thr | Leu | His | Asn | Lys | Met |
| | 755 | | | | |
| Phe | Phe | Asp | Arg | Asn | Pro |
| | 770 | | | | |
| Asp | Ile | Gly | His | Leu | Asp |
| | 785 | | | | |
| Ile | Gln | Thr | Leu | Leu | Gln |
| | 805 | | | | |
| Val | Ile | Pro | Trp | Ile | Ala |
| | 820 | | | | |
| Ile | Phe | Leu | Arg | Arg | Tyr |
| | 835 | | | | |
| Leu | Glu | Ser | Thr | Thr | Arg |
| | 850 | | | | |
| Leu | Gln | Gly | Leu | Trp | Thr |
| | 865 | | | | |
| Gln | Glu | Leu | Phe | Asp | Ala |
| | 885 | | | | |
| Leu | Phe | Leu | Thr | Thr | Ser |
| | 900 | | | | |
| Cys | Ala | Met | Phe | Val | Ile |
| | 915 | | | | |
| Lys | Thr | Leu | Asp | Ala | Gly |
| | 930 | | | | |
| Thr | Leu | Met | Gly | Met | Phe |
| | 945 | | | | |
| Glu | Asn | Met | Met | Ile | Ser |
| | 965 | | | | |
| Gln | Lys | Glu | Ala | Pro | Trp |
| | 980 | | | | |
| Pro | His | Glu | Gly | Val | Ile |
| | 995 | | | | |
| Pro | Gly | Gly | Pro | Leu | Val |
| | 1010 | | | | |
| Gln | Glu | Lys | Val | Gly | Ile |
| | 1025 | | | | |
| Leu | Ile | Ser | Ala | Leu | Phe |
| | 1045 | | | | |
| Ile | Asp | Lys | Ile | Leu | Thr |
| | 1060 | | | | |
| Lys | Met | Ser | Ile | Ile | Pro |
| | 1075 | | | | |
| Arg | Lys | Asn | Leu | Asp | Pro |
| | 1090 | | | | |
| Asn | Ala | Leu | Gln | Glu | Val |
| | 1105 | | | | |
| Gly | Lys | Met | Asp | Thr | Gln |
| | 1125 | | | | |
| Gly | Gln | Arg | Gln | Leu | Val |
| | 1140 | | | | |
| Gln | Ile | Leu | Ile | Ile | Asp |
| | 1155 | | | | |
| Asp | Glu | Leu | Ile | Gln | Lys |
| | 1170 | | | | |
| Val | Leu | Thr | Ile | Ala | His |
| | 1185 | | | | |
| Ile | Met | Val | Leu | Asp | Ser |

193

| | | | | | |
|-----|------|-----|------|-----|------|
| | 1205 | | 1210 | | 1215 |
| Val | Leu | Leu | Gln | Asn | Lys |
| | | | Glu | Ser | Leu |
| | | | Phe | Tyr | Lys |
| | | | | Met | Val |
| | | | | | Gln |
| | | | | | Gln |
| Leu | Gly | Lys | Ala | Gln | Ala |
| | | | Ala | Ala | Ala |
| | | | Leu | Thr | Glu |
| | | | | Thr | Ala |
| | | | | Lys | Gln |
| | | | | | Arg |
| Trp | Gly | Phe | Thr | Met | Leu |
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| | | | | Asn | Ser |
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 Ser Val

<210> 546
 <211> 29
 <212> PRT
 <213> Homo sapiens

<400> 546
 Phe Val Gly Glu Gly Leu Tyr Gln Gly Val Pro Arg Ala Glu Pro Gly
 5 10 15
 Thr Glu Ala Arg Arg His Tyr Asp Glu Gly Val Arg Met
 20 25

<210> 547
 <211> 58
 <212> PRT
 <213> Homo sapiens

<400> 547
 Val Ala Glu Glu Ala Ala Leu Gly Pro Thr Glu Pro Ala Glu Gly Leu
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 Ser Ala Pro Ser Leu Ser Pro His Cys Cys Pro Cys Arg Ala Arg Leu
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 Ala Phe Arg Asn Leu Gly Ala Leu Leu Pro Arg Leu His Gln Leu Cys
 35 40 45
 Cys Arg Met Pro Arg Thr Leu Arg Arg Leu
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<210> 548
 <211> 18
 <212> PRT
 <213> Homo sapiens

<400> 548
 Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu Gly Thr Gln Glu

195

5 10 15

Glu Cys

<210> 545
 <211> 18
 <212> PRT
 <213> Homo sapiens

<400> 549
 Leu Glu Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg
 5 10 15

Gln Ala

<210> 550
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 550
 Ser Asp His Trp Arg Gly Arg Tyr Gly Arg Arg Arg Pro Phe
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<210> 551
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 551
 Phe Asp Lys Ser Asp Leu Ala Lys Tyr Ser Ala
 5 10

<210> 552
 <211> 2577
 <212> DNA
 <213> Homo sapiens

<400> 552
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<210> 553

<211> 59

<212> PRF

<213> Homo sapiens

<400> 553

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Ser Ile Cys Asn Met Thr Cys Ala Ser Val Phe Phe Cys Asp Gln Lys
                    5                      10                      15
Phe Leu Thr Phe Ser Phe Leu Ser Met Val Glu Pro Pro Arg Ala Gly
                    20                      25                      30
Val Leu Asn Ser Gln Ala Thr Asp Ser Tyr Gln Ser Thr Asp Tyr Tyr
                    35                      40                      45
Glu Pro His His Thr Gly Gly Gln His
                    50                      55

```

<210> 554

<211> 59

<212> PRF

<213> Homo sapiens

<400> 554

```

Leu Gln Lys Asn Lys Leu Arg Ala Ser Thr Asp Ser Thr Leu Trp Ile
                    5                      10                      15
Cys Ala Ala Glu Ala Ser Thr Lys Pro Tyr Phe Tyr Thr Cys Leu Val
                    20                      25                      30
Met Leu His Gly Gln Gly Leu Ala Leu Leu Ser Pro Thr Asn Leu Pro
                    35                      40                      45
Glu Ile Leu Arg Phe Leu Phe Asn Gly Phe Leu
                    50                      55

```



```
<210> 555
<211> 71
<212> PRT
<213> Homo sapiens
```

```

400> 555
Leu Gly Arg Phe Ser Leu Ser Cys Lys Ser Gly His Ser Arg Gly Gln
      5      10      15
Pro Gln Leu Gly Ala Thr Ala Gln Gly Lys Val His Met Gly Leu Ser
      20      25      30
Thr Ala Gln Gly Ser Ile Gln Asp Ile Lys Val Pro His Ser Ile Asp
      35      40      45
Leu Val Ala Lys Lys Lys Lys Gln Thr Leu Ile Ser Phe Cys His Pro
      50      55      60
Ser Asp Pro Leu Glu Leu Leu
      65      70

```

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<210> 556
<211> 81
<212> FRT
<213> Homo sapiens
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[illegible]

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<210> 557
<211> 54
<212> PRT
<213> Homo sapiens
```

```

<400> 557
Ser Leu Ser Ala Thr Pro Leu Thr Leu Trp Asn Ser Ser Asp Pro Leu
      5              10              15
Glu Glu Ala Tyr Leu Ile Ser Ala Arg Glu Lys Thr Asn Asn Gly Leu
      20              25              30
Lys Gly Ser Leu Thr Met Lys Val Ser Ala Asn Ser Trp Leu Arg Cys
      35              40              45
Gly Phe His Ile Arg Phe
      50

```

```
<210> 558
<211> 77
<212> PRT
<213> Homo sapiens
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198

<220>

<221> VARIANT

 $\langle 222 \rangle$ {11}...{77})

<223> Xaa = Any amino acid

&lt400> 358

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| Asn | Asp | Arg | Asp | Arg | 5 | Asn | Ser | Asn | Lys | Val | Ile | Xaa | Lys | Ala | Asn | Leu | |
| Ile | Tyr | Phe | Thr | Asn | Leu | Thr | Ser | Cys | Leu | Ser | Val | Gln | Asn | Gln | Thr | | |
| Phe | Thr | Cys | Thr | Lys | Arg | His | Lys | His | Leu | Gln | Cys | Ser | Ser | Val | His | | |
| Leu | Cys | Lys | Ile | Pro | Pro | Arg | Leu | Lys | Gly | Arg | Asp | Lys | Lys | Lys | Lys | | |
| Pro | Ser | Tyr | Leu | Ser | Gly | Val | Leu | His | Ser | Arg | Ser | Tyr | | | | | |

62102 559

4213 50

212 PRT

<213> Homo sapiens

<406> 559

[illegible]

<210> 560

<211> 56

<212> P88

<213> Homo sapiens

4400 560

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Gly | Ser | Leu | Lys | Gly | Pro | Thr | Thr | Ala | Gly | Ser | His | Cys | Ser | Gly |
| | | | | 5 | | | | | 18 | | | | | 15 | |
| Glu | Gly | Ser | Tyr | Gly | Thr | Phe | Tyr | Cys | Pro | Arg | Phe | Tyr | Thr | Gly | Tyr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Gly | Ala | Ser | Gln | Tyr | Arg | Ser | Gly | Ser | Lys | Glu | Glu | Glu | Thr | Asn |
| | | 35 | | | | 46 | | | | | | | 45 | | |
| Thr | Asp | Leu | Phe | Leu | Pro | Pro | Leu | | | | | | | | |
| | 50 | | | | | 55 | | | | | | | | | |

42102 561

<211> 57

<212> PRT

<213> Homo sapiens

42263

<221> VARIANT

199

<222> (1)...(57)

<223> Xaa = Any amino acid

<400> 561

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Val Leu His Leu Asp Gln Met Asn Asn Val Gly Ile Xaa Met Asp Lys
              5              10              15
Gly Leu Lys Ser Pro Glu Ile Lys Asn Pro Ala Pro Thr Gly Thr Ser
              20              25              30
Asn Leu Ser Cys Phe Leu Ser Xaa Phe Trp Leu Met Gln Gly Thr Asn
              35              40              45
Ser Leu Pro Arg Glu Asn Tyr Leu Asn
              50              55

```

<210> 562

<211> 59

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)...(59)

<223> Xaa = Any amino acid

<400> 562

```

Asp Leu Tyr Pro Xaa Arg Ser Gln His Cys Ser Phe Asp Pro Ser Val
              5              10              15
Ala Pro Met His Gly Ile Lys Asn Ser Ile Thr Ser Leu Ile Phe Leu
              20              25              30
Ile Ser Tyr Leu Xaa Leu Glu Met Ser Ser Leu Ser Glu Ser Leu Val
              35              40              45
Leu Ser Ser Gly Asp Tyr Val Leu Asp Thr Pro
              50              55

```

<210> 563

<211> 79

<212> PRT

<213> Homo sapiens

<400> 563

```

Cys Phe Leu Phe Pro Tyr Leu Trp Leu Tyr Ala Gln Pro Leu Phe Pro
              5              10              15
Lys Gln Gln Pro Pro Ala Leu Ala Pro Gly His Pro Asp Phe Ile His
              20              25              30
Thr Gln Asn Glu Gln Ile Asp Pro Ser Pro His Ile Gln Asn Leu Met
              35              40              45
Trp Asn Pro His Leu Ser Gln Glu Leu Ala Glu Thr Phe Met Val Arg
              50              55              60
Asp Pro Leu Arg Pro Leu Leu Val Phe Ser Leu Ala Asp Ile Arg
              65              70              75

```

<210> 564

<211> 64

<212> PRT

<213> Homo sapiens

<400> 564

200

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Cys | Ser | Lys | 5 | Ser | Glu | Glu | Phe | Gln | Arg | Val | Arg | Gly | Val | Ala |
| Glu | Arg | Asp | Gln | 20 | Cys | Leu | Phe | Leu | Leu | Cys | Tyr | Gln | Ile | Tyr | Thr |
| Val | Arg | His | Leu | 35 | Tyr | Ile | Leu | Tyr | Arg | Thr | Leu | Gly | Ser | Arg | Lys |
| His | Met | Asn | Leu | 50 | Pro | Leu | Ser | Ser | Gly | Ser | Gln | Leu | Trp | Leu | Ala |
| | | | | | | | 55 | | | | | 60 | | | Pro |

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<210> 565
<211> $7
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(57)
<223> Xaa = Any amino acid
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```

<409> 365
Leu Tyr Tyr Cys Ser Tyr Leu Cys His Phe Arg Thr Ala Leu Ile Leu
      5      10      15
Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Glu
      20      25      30
Asn Ile Asp Val Ser Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu
      35      40      45
Tyr Ala Val Ser Ser Xaa His Ser Val
      50      55

```

```
<210> 566
<211> 55
<212> PRT
<213> Homo sapiens
```

```

<400> 566
Ile Leu Leu Glu Phe Phe Arg Asn Gln Arg Gly Ser Leu Asn Pro Arg
      5      10      15
Lys Thr Val Pro Phe Ile Lys Ser Glu Gly Gly Glu Lys Lys Gly His
      20      25      30
Cys Asn His Ser Val Val Ser Ile Asp Ser Ala Ala Ala Leu Leu Pro
      35      40      45
Leu Lys Leu Val Leu Leu Pro
      50      55

```

```
<210> 567
<211> 51
<212> PRT
<213> Homo sapiens
```

<400> 567

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Ser | Asp | Phe | Asp | Val | Phe | Cys | Ser | His | Thr | Tyr | Gly | Tyr | Met | Leu |
| | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | His | Cys | Ser | Gln | Ser | Ser | Ser | Pro | Leu | Leu | Trp | Pro | Leu | Gly | Ile |
| | | | | 20 | | | | 25 | | | | | 30 | | |
| Leu | Thr | Leu | Ser | Thr | His | Lys | Met | Ser | Lys | Leu | Thr | Leu | Pro | Pro | Ile |

201

35 40 45
 Phe Arg Thr
 59
 <210> 568
 <211> 75
 <212> FRT
 <213> Homo sapiens
 <400> 568
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 Tyr Val Ala Phe Asn Ser Val Pro Ser Thr Cys Leu Leu Ala Ser Leu
 20 25 30
 Thr Glu Thr Pro Val Thr Thr Ile Leu Thr Ile Ile Ile Asn Leu Thr
 35 40 45
 Cys Phe Gln His Ala Glu Ser Ser Tyr Leu Phe Tyr Pro Leu Ala Asp
 50 55 60
 Phe Leu Leu Gln His Ile Ser Leu Gly Lys Leu
 65 70 75
 <210> 569
 <211> 4809
 <212> DNA
 <213> Homo sapiens
 <400> 569
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<210> 576
 <211> 951
 <212> DNA
 <213> Homo sapiens
 <400> 576

203

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tatataatca ttttatttta ttttttttag acagagcttc gctgtgtcac ccaggcttga 240
gtcgaggtgc caactcttgg ctcaactgcaa cctctgagtc ccagggtcaa gcgataatca 300
tgccctggcc tccctgagtag ctgggaactac agcggtgcac caccacactct gggtaatctt 360
ttttgtatt ttttagagag aoggggttcc actgtgtgtc ccatctctg accctgtgat 420
ccgcctgccc ccaaaagtcg tgggattaca ggcattgagc accgcacaca gctgggctg 480
ggtaatttat aagaaaaaga ggtttaatga ctacagttc cgcattgctg gagaggctg 540
aggaacttta caatcatggg ggaaggtcaa ggggaagcaa ggcactctt acatgggtg 600
aggagagaac gagtgggggg ggagactgac acaaactttt tttttttag acagagctt 660
ggcctgttg ccccggttgg agtgaaatgg catgatctca gctcaactga accctgccc 720
cacaggttca agcaattctc atgcctcagg ctcccgata gctgggacca caggtatgca 780
ccacccacac tagctaattt tttagttttt agtagagatg ggtctctcc atgtgtctca 840
ggctgtgtca aaactcttgg gctccagcaa tccgctgccc ttggctccc aaagtgtgg 900
ggttaacaggc ataagccacc aactccagoc tggcacatac ttttaacta t 960

```

<210> 571
 <211> 919
 <212> DNA
 <213> Homo sapiens

```

<400> 571
cagcttaaaa atggttttct gaaatcagtg attagcattc actcaccagt accctacta 60
aggggtaggg actggtttgt actcctggga atacaggagt acacacgaat ttattttctg 120
ttattgcttt tgttgcaaat gcctgtggtt catctgagga attctagaat tccaggggtg 180
tagccttcca ctctgctgtc ttgctatctg ctctcaatgc atccgtttta cctgcattct 240
gaagatgatt ctccaggttt ttccctgaag attttctct ttctgattc tgcgaatgtt 300
ttaaatcatt gtactgtggt tatctttct ctgcatttat ttacccata ttcttttga 360
actgtctcta ttgtctttta attctgccc gtcttttatg gctttcaact tcataaataa 420
catgttttct caaatctctt tgtgaattcc agagagggcc aggaacgggt gctcaactct 480
gtaatccacg caactttggg aggtctgagc ggttgagata cttaggctca ggagttagg 540
accagctgg ccaacatggt gaaatccctt ttactaaaa atacaaaaat taocaggca 500
tggtgctggg cgcctgtaat cccaggtact cgggaggtct agggagagga atcggttag 560
cttgaggagg tgaggaggga gaatcgcttg aaccggggag gcagaggttg cagtgaacg 620
agatcatggt gctgcactcc agctgtgtca acagagcaag actctgcctc aanaacaaac 680
aaataaacaa aaaaacagaa aaaaacagaa gattttgtc 740

```

<210> 572
 <211> 203
 <212> DNA
 <213> Homo sapiens

```

<400> 572
tatagaatac tcaagctatg catcaagctt ggtaccagac tccgatacac tttttacggc 60
cgccagtggt ctggaattcg ccttagctc ggaatcaact gtccagtgtg tgggaattcc 120
attgtgttgg gcccaacaca atggagccac caatccagac ctgcccataa cttttaaact 180
atcaggtctc atgagacacc atg

```

<210> 573
 <211> 132
 <212> PRT
 <213> Homo sapiens

```

<400> 573
Met Val Glu Gly Gly Glu Ala Arg His Val Leu His Gly Gly Arg
      5              10              15
Arg Glu Arg Val Arg Gly Glu Thr Ala Thr Asn Phe Phe Leu Arg

```

204

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| | 20 | | 25 | | 30 |
| Gln | Glu | Ser | Gly | Pro | Val |
| | 35 | | 40 | | 45 |
| Ser | Ser | Leu | Gln | Pro | Leu |
| | 50 | | 55 | | 60 |
| Ser | Leu | Pro | His | Ser | Tsp |
| | 65 | | 70 | | 75 |
| Asn | Phe | Cys | Ser | Phe | Ser |
| | | | 85 | | 90 |
| Trp | Ser | Lys | Thr | Pro | Gly |
| | 100 | | 105 | | 110 |
| Lys | Cys | Trp | Gly | Tyr | Arg |
| | 115 | | 120 | | 125 |
| Leu | Leu | Asn | Tyr | | |
| | 130 | | | | |

<210> 574
 <211> 62
 <212> PRT
 <213> Homo sapiens

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| Met | Thr | His | Ser | Ser | Ala |
| | | | 5 | | 10 |
| His | Gly | Gly | Arg | Arg | Arg |
| | | | 20 | | 25 |
| Glu | Arg | Thr | Ser | Glu | Gly |
| | 35 | | 40 | | 45 |
| Thr | Arg | Val | Trp | Pro | Cys |
| | 50 | | 55 | | 60 |

<210> 575
 <211> 76
 <212> PRT
 <213> Homo sapiens

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| Met | Val | Lys | Ser | Arg | Phe |
| | | | 5 | | 10 |
| Trp | Arg | Ala | Pro | Val | Ile |
| | | | 20 | | 25 |
| Ser | Leu | Glu | Pro | Gly | Arg |
| | 35 | | 40 | | 45 |
| Gly | Arg | Gly | Cys | Ser | Glu |
| | 50 | | 55 | | 60 |
| Ser | Thr | Glu | Gln | Asp | Ser |
| | 65 | | 70 | | 75 |

<210> 576
 <211> 68
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT

205

<222> (1)...(68)

<223> Xaa = Any Amino Acid

<400> 576

```

Met Leu Gly Lys Ser Arg Ala Val Cys Leu Pro Ser Thr Thr Val Thr
      5      10      15
Thr Val Cys Tyr Leu Ala Ser Ser Ser Ala Ser Arg Gln Thr Ala Thr
      20      25      30
Arg Gln Ala Pro Gly Asn Trp Lys Met Xaa Ser Lys Cys His Ala Gln
      35      40      45
Leu Leu Phe Thr Phe Tyr Leu Asn His Phe Tyr Gln Ile Arg Leu Asn
      50      55      60
Pro Gly Tyr Ser
65

```

<210> 577

<211> 57

<212> PRT

<213> Homo sapiens

<400> 577

```

Met Tyr Leu Glu Asn Ser Phe Tyr Cys Gln Met Ile Leu Leu Lys Arg
      5      10      15
Cys Arg Leu Ser Lys Ile Ser Thr Gln Arg Val Val Pro Asp Gly Pro
      20      25      30
Pro Ala Pro Val Pro Gly Ser Phe Pro Met Phe Pro Arg Phe Gly Phe
      35      40      45
Arg Leu Ala Pro Pro Ala Asp Thr Pro
50      55

```

<210> 578

<211> 51

<212> PRT

<213> Homo sapiens

<400> 578

```

Met Gln Leu Ile Tyr Leu Cys Phe Leu Gly Leu Leu Tyr Ile Arg His
      5      10      15
His Asp Ser Gln Ser Phe Val Ile Leu Tyr Tyr Lys Lys Leu Asn Tyr
      20      25      30
Tyr Phe Lys Tyr Gly Gln Ile Arg Ala Phe His Ile Ala Lys Val Tyr
      35      40      45
Gln Pro His
50

```

<210> 579

<211> 56

<212> PRT

<213> Homo sapiens

<400> 579

```

Met His Phe Thr Phe Met Gln Leu Ile Tyr Leu Cys Phe Leu Gly Leu
      5      10      15
Leu Tyr Ile Arg His His Asp Ser Gln Ser Phe Val Ile Leu Tyr Tyr
      20      25      30
Lys Lys Leu Asn Tyr Tyr Phe Lys Tyr Gly Gln Ile Arg Ala Phe His
      35      40      45
Ile Ala Lys Val Tyr Gln Pro His

```

206

50

55

<210> 580

<211> 67

<212> PRT

<213> Homo sapiens

<400> 580

```

Met Glu Leu Arg Thr Lys Ala Leu Arg Thr Ala Gln Gln Leu Thr Ser
      5              10              15
Cys Val Thr Ala Leu Lys Ala Ala Gly Pro Pro Leu Thr Phe Trp Lys
      20              25              30
Gly Lys Trp Val Gln Cys Cys Leu Pro Leu Trp Gly Leu Leu Gly Ser
      35              40              45
His Ala Phe Tyr Ile Tyr Ala Val Asp Ile Phe Met Phe Pro Gly Ser
      50              55              60
Phe Ile His
      65

```

<210> 581

<211> 77

<212> PRT

<213> Homo sapiens

<400> 581

```

Met Leu Glu Val Lys Phe Glu Val Ser Leu Arg Pro Thr Gly Asn Glu
      5              10              15
Thr Ala Gly Gln Thr His Gly Thr Gln Asp Lys Gly Ser Lys Asp Ser
      20              25              30
Thr Ala Ala Asp Ile Leu Cys Asp Ser Leu Gln Ser Ser Arg Pro Ala
      35              40              45
Ala His Ile Leu Glu Gly Lys Met Gly Thr Met Leu Ser Ala Thr Leu
      50              55              60
Gly Pro Ser Trp Val Thr Cys Ile Leu His Leu Cys Ser
      65              70              75

```

<210> 582

<211> 51

<212> PRT

<213> Homo sapiens

<400> 582

```

Met Leu Phe Leu Gln Thr Ile Asp Thr Lys Cys Thr Gly Ile Glu Ile
      5              10              15
Asn Arg Asn Trp Ser Lys Val Trp His Thr His Ser His Val Asp Val
      20              25              30
Lys Leu Cys Leu Glu Phe Leu Cys Gly Val Trp Phe Gly Leu Gly Phe
      35              40              45
Leu Gly Val
      50

```

<210> 583

<211> 60

<212> PRT

<213> Homo sapiens

<400> 583

```

Met Ser Thr Ser Asp Gly Phe Ala Pro Pro Pro Gln Leu Gly Ser Arg

```

207

```

          5              10              15
Cys Ser His Ile Arg Gly Pro Ile Lys Ile Ala Arg Asn Lys Phe Pro
          20              25              30
Arg Thr Leu Thr Ser Gln Glu Leu Arg Arg Phe Ala Glu Tyr Ser Gly
          35              40              45
Met Met Phe Gly Asp Gln Thr Thr Ala Gly Gln Lys
          50              55              60

```

<210> 584
 <211> 76
 <212> PRT
 <213> Homo sapiens

```

<400> 544
Met Cys Leu Cys Ile Pro Leu Gly Gly Tyr Gln Glu Leu Cys His Cys
          5              10              15
Met Ser Thr Ser Asp Gly Phe Ala Pro Pro Gln Leu Gly Ser Arg
          20              25              30
Cys Ser His Ile Arg Gly Pro Ile Lys Ile Ala Arg Asn Lys Phe Pro
          35              40              45
Arg Thr Leu Thr Ser Gln Glu Leu Arg Arg Phe Ala Glu Tyr Ser Gly
          50              55              60
Met Met Phe Gly Asp Gln Thr Thr Ala Gly Gln Lys
          65              70              75

```

<210> 585
 <211> 50
 <212> PRT
 <213> Homo sapiens

```

<400> 585
Met Val Tyr Arg Phe Gly Gln Met Ser Asp Asn Pro Phe Tyr Ile Leu
          5              10              15
Ala Ser Leu Gly Ser Ser Ser Cys Arg Asn Gly Leu Ala Ser Lys Trp
          20              25              30
Arg Gln Ala Asp Pro Ser Asp Gly Tyr Met Glu Pro Cys Phe Gln Leu
          35              40              45
Leu Phe
          50

```

<210> 586
 <211> 60
 <212> PRT
 <213> Homo sapiens

```

<400> 586
Met Leu Val His Ile Tyr Ser Cys Cys Gly Met Val Tyr Arg Phe Gly
          5              10              15
Gln Met Ser Asp Asn Pro Phe Tyr Ile Leu Ala Ser Leu Gly Ser Ser
          20              25              30
Ser Cys Arg Asn Gly Leu Ala Ser Lys Trp Arg Gln Ala Asp Pro Ser
          35              40              45
Asp Gly Tyr Met Glu Pro Cys Phe Gln Leu Leu Phe
          50              55              60

```

<210> 587
 <211> 1408
 <212> DNA

<213> Homo sapiens

<400> 587

```

ctggacactt  tggcagggct  ttgtctggct  gctgctgctg  cccgtctatg  tactcatagt  60
agcccgcccg  gtgaagctcg  ctgctttccc  taactctcta  agtgaactgc  aaacggccac  120
cggtctggaat  tgcctctggt  atgatgacag  agaaaatgat  ctctctctct  gtgacaccaa  180
cacctgtaaa  ttgtatgggg  aatgtttaag  aattggagac  actgtgactt  gctctgtgca  240
gttaaatgtc  aacaatgact  atgtgcctgt  gtgtggctcc  aatggggaga  gctacacaga  300
tgagtgttac  ctgcgacagg  ctgcattgca  acagcagagt  gagatacttg  tgggtgtcga  360
aggatcatgt  gccacagatg  caggatcagg  atctggagat  ggagtccatg  aaggctctgt  420
agaaactagt  caaaaggaga  catccacctg  tgataatttg  cagtttggtg  cagaattgca  480
cgaagatgcc  gaggatgtct  ggtgtgtgtg  taatattgac  tgtttctcaa  ccaactctaa  540
tccctctgct  gctttctgat  gynaalctta  tgataatgca  tgccaaatca  aagagctcgc  600
gtgtcagaaa  caggagaaaa  ttgaagtcct  gctctttggg  cgtatgtcaag  ataacacaaa  660
tacaactact  aagctctgaag  atgggcatta  tgaagaaca  gattatgcag  aqaalgtcaa  720
caaataggaa  gaaagtgcac  gagaacacca  caataccttg  ccggaacatt  acaatgggtt  780
ctgcatgcat  gggaaagtgt  agcattctat  caatatgcag  gagccatctt  gccaggtatg  840
tgcgtgttat  actggacaaa  actgtgaaaa  aaaggactac  agtgttctat  acgttgttcc  900
cggtctctga  cgttttcagt  atgtcttaat  cgcagctgtg  attggaacaa  ttccagattg  960
tgtcatctgt  gttgttggtc  tctgcattac  aaggaaatgc  cccagaagca  acagaattca  1020
cagacagaa  caaatatcag  ggcactacag  ttccagacat  acacacagag  cgtccacag  1080
gttaactcaa  agggagcatg  ttccacagtg  gctggactac  cggagcgttg  gactacacaa  1140
tacaagtata  tagacaaaag  aataagacaa  gagatctaca  catgttgcat  tgcattttgt  1200
gtaattcaca  caaatgaaaa  catgtaactac  agctataatt  gattatgata  ggaataatit  1260
gaaatagtat  acaattgtct  gatgtttttt  ctgtaattga  aataaactat  ttatatcaaa  1320
caataagatt  ttctctttcc  catgtatttg  ttatatataa  taataactca  gtgatgagaa  1380
aaaaaaaaaa  aaaaaaaaaa  rwmgcccc

```

<210> 588

<211> 81

<212> PRT

<213> Homo sapiens

<400> 588

```

Met  Pro  Gln  Lys  Gln  Gln  Asn  Ser  Gln  Thr  Glu  Ala  Lys  Tyr  Arg  Ala
      5              10              15
Leu  Gln  Phe  Arg  Gln  Tyr  Asn  Lys  Ser  Val  His  Glu  Val  Asn  Leu  Lys
      20              25              30
Gly  Ala  Cys  Phe  Thr  Val  Ala  Gly  Leu  Pro  Arg  Ala  Trp  Thr  Thr  Gln
      35              40              45
Tyr  Ser  Ile  Ile  Asp  Lys  Arg  Ile  Arg  Gln  Glu  Ile  Tyr  Thr  Cys  Cys
      50              55              60
Leu  Ala  Phe  Val  Val  Ile  Tyr  Thr  Asn  Glu  Asn  Met  Tyr  Tyr  Ser  Tyr
      65              70              75              80
Ile

```

<210> 589

<211> 157

<212> PRT

<213> Homo sapiens

<400> 589

```

Met  Thr  Met  Cys  Leu  Cys  Val  Ala  Pro  Met  Gly  Arg  Ala  Thr  Arg  Met
      5              10              15
Ser  Val  Thr  Cys  Asp  Arg  Leu  His  Ala  Asn  Ser  Arg  Val  Arg  Tyr  Leu
      20              25              30
Trp  Cys  Gln  Lys  Asp  His  Val  Pro  Gln  Met  Gln  Asp  Gln  Asp  Leu  Glu

```

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 35 | | | | | 46 | | | | | 45 | | | | | |
| Met | Glu | Ser | Met | Lys | Ala | Leu | Glu | Lys | Leu | Val | Lys | Arg | Arg | His | Pro |
| 59 | | | | | 55 | | | | | 60 | | | | | |
| Pro | Val | Ile | Phe | Ala | Ser | Leu | Val | Gln | Asn | Val | Thr | Lys | Met | Pro | Arg |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Met | Ser | Gly | Val | Cys | Val | Ile | Leu | Thr | Val | Leu | Lys | Pro | Thr | Ser | Ile |
| | | | | | 85 | | | | | 90 | | | | | 95 |
| Pro | Ser | Ala | Leu | Leu | Met | Gly | Asn | Leu | Met | Ile | Met | His | Ala | Lys | Ser |
| | | | | | 100 | | | | | 105 | | | | | 110 |
| Lys | Lys | His | Arg | Val | Arg | Asn | Arg | Arg | Lys | Leu | Lys | Ser | Cys | Leu | Trp |
| | | | | | 115 | | | | | 120 | | | | | 125 |
| Val | Asp | Val | Lys | Ile | Thr | Gln | Leu | Gln | Leu | Leu | Ser | Leu | Lys | Met | Gly |
| | | | | | 130 | | | | | 135 | | | | | 140 |
| Ile | Met | Gln | Glu | Gln | Ile | Met | Gln | Arg | Met | Leu | Thr | Asn | | | |
| 145 | | | | | 150 | | | | | 155 | | | | | |

```
<210> 590
<211> 347
<212> PRT
<213> Homo sapiens
```

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Leu | Ile | Val | Ala | Arg | Pro | Val | Lys | Leu | Ala | Ala | Phe | Pro | Thr |
| | | | | 5 | | | | 10 | | | | | | 15 | |
| Ser | Leu | Ser | Asp | Cys | Gln | Thr | Pro | Thr | Gly | Trp | Asn | Cys | Ser | Gly | Tyr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Asp | Arg | Glu | Asn | Asp | Leu | Phe | Leu | Cys | Asp | Thr | Asn | Thr | Cys | Lys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Asp | Gly | Glu | Cys | Leu | Arg | Ile | Gly | Asp | Thr | Val | Thr | Cys | Val | Cys |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Gln | Phe | Lys | Cys | Asn | Asn | Asp | Tyr | Val | Pro | Val | Cys | Gly | Ser | Asn | Gly |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 |
| Glu | Ser | Tyr | Gln | Asn | Glu | Cys | Tyr | Leu | Arg | Gln | Ala | Ala | Cys | Lys | Gln |
| | | | | 85 | | | | | 90 | | | | 95 | | |
| Gln | Ser | Glu | Ile | Leu | Val | Val | Ser | Glu | Gly | Ser | Cys | Ala | Thr | Asp | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Ser | Gly | Ser | Gly | Asp | Gly | Val | His | Glu | Gly | Ser | Gly | Glu | Thr | Ser |
| | | 115 | | | | 120 | | | | | 125 | | | | |
| Gln | Lys | Glu | Thr | Ser | Thr | Cys | Asp | Ile | Cys | Gln | Phe | Gly | Ala | Glu | Cys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Glu | Asp | Ala | Glu | Asp | Val | Trp | Cys | Val | Cys | Asn | Ile | Asp | Cys | Ser |
| | 145 | | | | 150 | | | | | 155 | | | | | 160 |
| Gln | Thr | Asn | Phe | Asn | Pro | Leu | Cys | Ala | Ser | Asp | Gly | Lys | Ser | Tyr | Asp |
| | | | 165 | | | | | | 170 | | | | 175 | | |
| Asn | Ala | Cys | Gln | Ile | Lys | Glu | Ala | Ser | Cys | Gln | Lys | Gln | Glu | Lys | Ile |
| | | 180 | | | | | | 185 | | | | 190 | | | |
| Glu | Val | Met | Ser | Leu | Gly | Arg | Cys | Gln | Asp | Asn | Thr | Thr | Thr | Thr | Thr |
| | 195 | | | | | | 200 | | | | 205 | | | | |
| Lys | Ser | Glu | Asp | Gly | His | Tyr | Ala | Arg | Thr | Asp | Tyr | Ala | Glu | Asn | Ala |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Asn | Lys | Leu | Glu | Glu | Ser | Ala | Arg | Glu | His | His | Ile | Pro | Cys | Pro | Glu |
| | 225 | | | | 230 | | | | | 235 | | | | | 240 |
| His | Tyr | Asn | Gly | Phe | Cys | Met | His | Gly | Lys | Cys | Glu | His | Ser | Ile | Asn |
| | | | 245 | | | | | 250 | | | | | 255 | | |
| Met | Gln | Glu | Pro | Ser | Cys | Arg | Cys | Asp | Ala | Gly | Tyr | Thr | Gly | Glu | His |
| | 260 | | | | | | | 265 | | | | | 270 | | |
| Cys | Glu | Lys | Lys | Asp | Tyr | Ser | Val | Leu | Tyr | Val | Val | Pro | Gly | Pro | Val |

210

| | | |
|---|-----|-----|
| 275 | 280 | 285 |
| Arg Phe Gln Tyr Val Leu Ile Ala Ala Val Ile Gly Thr Ile Gln Ile | | |
| 290 | 295 | 300 |
| Ala Val Ile Cys Val Val Val Leu Cys Ile Thr Arg Lys Cys Pro Arg | | |
| 305 | 310 | 315 |
| Ser Asn Arg Ile His Arg Gln Lys Gln Asn Thr Gly His Tyr Ser Ser | | |
| 320 | 325 | 330 |
| Asp Asn Thr Thr Arg Ala Ser Thr Arg Leu Ile | | |
| 340 | 345 | |

<210> 591
 <211> 565
 <212> DNA
 <213> Homo sapien

| | |
|---|-----|
| <400> 591 | |
| actaaagcac atgaacacagc tgacttggta gatacatctg catcatttga agcacacagaa | 60 |
| cttcacagcct tgaactcatgt aaatgcaata ggattaaaaa ataaatttga tatcacatgg | 120 |
| aaacacagcac aaaaatttgt acaacatttc acccagtgtc agattctaca cctggccact | 180 |
| caggacagcac gagttaatcc cagagggtcta tgctctaattg tgttatggca aatgggatgtc | 240 |
| atgcacgttac ctctatttgg aaatttggta ttgttcacat tgacagttga tacttatctca | 300 |
| caattcatat gggcaacctg ccagacagga gaaagtactt cccatgttaa agacacttta | 360 |
| ttatcttggtt ttctgttcac gggagttcca gaaaagttta aaacagacaa tgggcccaggt | 420 |
| tactgtagta aagcattttca aaaattctta atccagttga aaattacaca taacatagga | 480 |
| attctctata attcccaagc acaggccata attgaagga ctaatagaac actcaaaagt | 540 |
| caattggta aacaaaaaaa aaaaa | 565 |

<210> 592
 <211> 199
 <212> PRT
 <213> Homo sapien

| | |
|---|-----|
| <400> 592 | |
| Thr Lys Ala Asn Glu Gln Ala Asp Leu Leu Val Ser Ser Ala Phe Ile | |
| 1 | 15 |
| Glu Ala Gln Glu Leu His Ala Leu Thr His Val Asn Ala Ile Gly Leu | |
| 20 | 30 |
| Lys Asn Lys Phe Asp Ile Thr Trp Lys Gln Thr Lys Asn Ile Val Gln | |
| 35 | 45 |
| His Cys Thr Gln Cys Gln Ile Leu His Leu Ala Thr Gln Glu Ala Arg | |
| 50 | 60 |
| Val Asn Pro Arg Gly Leu Cys Pro Asn Val Leu Trp Gln Met Asp Val | |
| 65 | 75 |
| Met His Val Pro Ser Phe Gly Lys Leu Ser Phe Val His Val Thr Val | |
| 85 | 95 |
| Asp Thr Tyr Ser His Phe Ile Trp Ala Thr Cys Gln Thr Gly Glu Ser | |
| 100 | 110 |
| Thr Ser His Val Lys Arg His Leu Leu Ser Cys Phe Pro Val Met Gly | |
| 115 | 125 |
| Val Pro Glu Lys Val Lys Thr Asp Asn Gly Pro Gly Tyr Cys Ser Lys | |
| 130 | 140 |
| Ala Phe Gln Lys Phe Leu Asn Gln Trp Lys Ile Thr His Thr Ile Gly | |
| 145 | 155 |
| Ile Leu Tyr Asn Ser Gln Gly Gln Ala Ile Ile Glu Gly Thr Asn Arg | |
| 165 | 175 |
| Thr Leu Lys Ala Gln Leu Val Lys Gln Lys Lys Lys | |
| 180 | 185 |

211

```

<210> 593
<211> 271
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(271)
<223> n = A,T,C or G

<400> 593
acrttatgtt cnagtgcana aannccnctg gattgcacac ntactnctag ggcgttgant    60
tgtgmcacca nagcaacctg gccacggggg gacagggggg cncacaattg agggagcggg    120
gtccctagct ggggtctata catgncnegg naagggcngc tgagtnccat nagcaaaqga    180
nctagnatnt gcgggggtgc ggcctgggccc taccctttta agcatccatn gatccactcc    240
angaanccng gggtagncag gtttcccaac a                                271

<210> 594
<211> 376
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(376)
<223> n = A,T,C or G

<400> 594
cccttggggg nggggggaac ctttaccatt gtncaccttt afftcatttg gttingggttc    60
gggcctctemn gggccaaacaa agttatcgtt ntgaagaga anattttttt ggnattagncc    120
cgcttaagcg ncaaatgtgt ccacaaanngc cgtgccactt gtggcgttagc tncgtcgggt    180
cgcttcgacg accaggggtn ggcgcyntanc gttagtctcn aatngaaccn tgggcatyag    240
ccacagangg ntctcgtctg tccatctggnc totagacata agcncnccn ttttttncag    300
agggcgntgc cgcctctagg gaggnagggg tggggacact agccaancca nantctnacc    360
ccattgaaga aaaggg
                                376

<210> 595
<211> 242
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(242)
<223> n = A,T,C or G

<400> 595
agncctcctn tcgtacccctn tatgtggctt catnatgagg acaanagtng cactgagcct    60
tgnatagtc ccagcaaggnc aagctggctc aaaaagcctc ccccacctc tgnaaaggggt    120
atgcacangag cangtgcacc agtcccccct angagncocn ggcctgntac atctttcttc    180
accctnaaa ntttgngcta caangnccat tttctttttt ctcttaaggg ncncttgct    240
tc                                242

<210> 596
<211> 535
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(535)
<223> n = A,T,C or G

<400> 596
accagttgga tactgtctaa nagatatatta tgcagcctca tatgttaagt cgtatatatt 60
gaaagtcttt taaatttttt cttsagaag altttagatg ctatctactg agtaaccagag 120
ggagtgtagg tgatgccctt atcaacaaag tcaggggactg tggcacacaa ggaattgacta 180
ctgcagacac ggcacacatg ctacctctag agggcctgaa tccctctgcc ctctctgggtg 240
ggggagaagg ctggcagagc cattagcatg ggctccggcc aatcctggcc actttgacac 300
tcctggtgct gacctagggt cctggaggaa gggatggagt gggcagtaga gatgctcagg 360
gcagtggccc ctttccatcc acactggaac tatttcagta tttaccacc aattccagcca 420
tcctcttggt cgtctggctg acatcagccc tgctccaggt ctccagttcc cctttgtaaa 480
gggaaagctc tggattcagg gagtcatgaa gaggctatca tggctcttag aatcc 535

<210> 597
<211> 257
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(257)
<223> n = A,T,C or G

<400> 597
tttcnatacc caaaantacc ccatattang accanacatt tgrctnggaa aaettaacct 60
tatntaantb ttgggcccac tgagannaaa tgggtgtaat noeltgataag atgganacgn 120
attnccttta agatnngatn agaccocgtt ttccacggaa catatccaaq naccocaatag 180
gnaacacgcc acgyngggag tcacaaacat atattcttta ctctcetaat ccgtnnccca 240
naactnttgn acttgac 257

<210> 598
<211> 222
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(222)
<223> n = A,T,C or G

<400> 598
nntgntacc gtccaaactt nneltggtac ccagctcggg atccactagt ccagtgtggt 60
ggatctccat tgtgtttggc tataagctgt aatagtgggq hcggtgctngg ttcattgcan 120
nagncctccc gcanncacnc ttgnnacaac ctgtgagngn gcnataaatt attcacatca 180
tcactactgc atgaanctga ctcaacgca tccactaca cc 222

<210> 599
<211> 238
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(238)

```


<223> n = A,T,C or G

```
<400> 599
gcattgacatc ancyatgtnt tgggnnacot ganattngct aaactngng natgocgggn      60
atgnagggttt ggtantgato tatgcactca catctcatgg ggaagtttca tgtggagtgn      120
tcgacaangt tgcctgnancc gagaagtget gatctcagtt gaaagggtca tgtgaataca      180
cattacagctt gaaaaagag cacattggga atatcacgaa ccgnaccaca acctctgt      238
```

<210> 600

<211> 232

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...{232}

<223> n = A,T,C or G

```
<400> 600
ggaactattt agactaccta ggaataattt tttagtctca gaagatata aggggtgtag      60
taactcatag agctaataga gagcgcttta aaatgttag ttgtctctcc gcaatttcta      120
cagaagctgg caatttcagg ttccaacct aataggtgat atttaaaaa aaaaaaagc      180
aatgcgaat agccccactg ctttacaaa tcatcttttc ccaaacacaa tg          232
```

<210> 601

<211> 547

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...{547}

<223> n = A,T,C or G

```
<400> 601
cattgtgttg gggaaaaaat gatttgtata agcagtgggg ctatttgcga ttgctttttt      60
ttttctctaa atatacacta ttaggttgaa aacotgaaa tgcagctttc tgtagaatat      120
ggcgaagaca aactaacatt tttaaaagcg tctcatctag ctctgatgag tactaacccc      180
ctnattctct tctgatacta aactaatitt cctagtgtag tctaaacttt tttaaaaga      240
catgtaatcc gcggagtttag taactcaaaa cgagtgcatc tnggaagatc gcgagcgctt      300
netggatnaa attccagctt tctctngctt cttagccggg gggcggttna aaaaacatct      360
gcagcccgng ggnaaaaaac ttccgacttg tottacgtgt ttacgttatt ttatttccct      420
nnaagcaagg ccggganttgg ggaactcgaaa tggtaacggt ggggtgggga tgcgcccttg      480
taactataag ngttcacaga gaggyacggt kacaggcngg ganctccaaa ggtcagtcct      540
tgcactt                                     547
```

<210> 602

<211> 826

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...{826}

<223> n = A,T,C or G

```
<400> 602
gggggggnat tacgtctctc tggagctttt tattgtacaa gggcgatccc agcccaactg      60
```

| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|-----|
| taacattcga | gtccattcgt | ctgcctttgt | ctagggaaat | aaataacagt | aaacactgta | 120 |
| gaacacattg | aaagcgtttt | cttccctcagg | ctgcagattg | tctttttacc | cgccatgat | 180 |
| tactagtctga | tactagctggg | aaatttaact | agaaagagct | tgcagatcc | ccctagtaca | 240 |
| ctcgttttga | ctgtacaacat | ccgcggatct | catgtctctt | taaaagaatt | tacgactatc | 300 |
| tattgggaat | tatttttagta | tacgaagaat | ctacgggggt | gtagtactca | tacagagtca | 360 |
| ttagagcggc | tttaaaaatt | ttagttttta | ttccgcctat | tctacagaaa | gtgcgaattt | 420 |
| cagtttttca | ncctaatagg | tgtatttttc | gaaaaaaaaa | acactcgcan | atgcacactt | 480 |
| gctttttaca | atcctttttt | ttctctagg | atagctgtct | aggtggccta | atgtattttt | 540 |
| gacatctcta | ggaattttta | tacagacgaa | agagttgcc | gagatattgc | tgcactaat | 600 |
| ttaagctggg | attttagtat | ttctacaaaa | agtgattaaa | gcaaaacatt | gcacgaatga | 660 |
| aaacacagtc | ttttggccag | aaatcctaaa | naattttana | atttttttca | gaatctctgg | 720 |
| cttctctctt | taaaattgaa | aaaaaaatt | tttaaaccca | naaggtctga | tttcccaagc | 780 |
| ncctcaacon | aaagaacgaa | ccccaacac | ccctcccaaa | atccgc | | 826 |

```
<210> 603
<211> 817
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> {1}...{817}
<223> n = A,T,C or G
```

| #000> 603 | | | | | | |
|-------------|-------------|------------|------------|-------------|-------------|-----|
| naangacttt | tgtggtntta | tacaactint | tttctatttt | ctatgaagag | aasgccacag | 60 |
| agtctctaaa | ttttctctaaa | actctactct | actttcttgc | ctaaaagcat | ttgattttca | 120 |
| tcgttcgaaa | tttttgcttta | atcaacttgc | tgagaaatat | ataaatccac | actttaagat | 180 |
| agttcgcyya | tatctctggc | accatcttct | tgctctatba | aaactctctg | agatgtctaa | 240 |
| aattatctaa | ggccacactga | caggctctat | ctatgagaaa | aaaaaatatt | tgttaaaagca | 300 |
| ctggggctat | tttgcgattt | tttttttttt | ttctaaatat | ccactattatg | ctgtgaaaac | 360 |
| tgaaatttgc | tgatctcttca | gaaattgcgg | aagacaaact | aaacttttca | aagcgtctct | 420 |
| actttagctct | gattcgctact | aaacccctga | tattctctct | tatctaaat | aatttctcta | 480 |
| ctgtgatctga | aacttttttt | aaagaacatg | taactccggg | agtttgtaac | tcaaaaagag | 540 |
| tgcactctag | aggttatctga | acgcgttttt | ggatttaatt | cccgagctgt | ttgcttgtct | 600 |
| taactgttgc | ggnaaaaana | acatctctgc | ctatggggaa | aaacacttct | gaaattgtct | 660 |
| acagcgggct | cgtttaattt | tttctctaaa | ctaggcgaaa | tgagctctaa | atctgttctag | 720 |
| ttgggggtgc | ggatccccct | gttctctaaa | ngtcaaaaag | anggtctacg | cgggaacnca | 780 |
| aggctctctc | ggatcttana | ctccgaattt | tgtctctc | | | 840 |

```
<210> 604
<211> 694
<212> DNA
<213> Homo sapiens
```

```
<220>
<221> misc_feature
<222> {1}...{694}
<223> n = A,T,C or G
```

| #4009 | 664 | | | | | | | | | |
|-------------|--------------|-------------|-------------|------------|-------------|-----|--|--|--|--|
| cattttcaaat | catttttctot | ctttctaggta | taactgtcca | ggtggcctaa | tgtaattttt | 60 | | | | |
| gcacatctcta | ngaatattttaa | tgcacatcca | aatgggtgco | agagatctgc | ctgcacattt | 120 | | | | |
| ctlaaagagct | gattgtatgta | ctttctcagc | agaagtattaa | acacaaaata | gtccagcattg | 180 | | | | |
| aaatcaaatat | ctttttaggca | annnnctgt | gatgtgtttt | agaaattttt | taggactgatt | 240 | | | | |
| gtgtctttct | ttctatgaaa | tgcacaaaaa | aattgtataa | aacacacaaa | ggtctctaat | 300 | | | | |
| agccnaaaga | acactgcana | aaaagaaana | agcagaggaag | caaacaccta | cagagattcca | 360 | | | | |
| aattatatac | ccagctgtata | tataaccaaa | cagaaattata | tgcagctata | atagaccaca | 420 | | | | |

215

```

agcccaatgg aacagaataa agaacccccac aaataaatcc atatatatcc ggcacactga 480
ttatcaataa aaacacccaa gaacatatnt laagggaant nctattccat aattagtctct 540
ggnaaaactt gggaaatcca tatgcagaaa naagaaactt agacccttat cctccaccat 600
acgcaaaant caacttcggg atgggtattac aaacttaag acattccaac ccaagaaact 660
atnaaacta ctattaagaa aacagatccc nccc 694

```

```

<210> 605
<211> 678
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(678)
<223> n = A,T,C or G

```

```

<400> 605
taanaactta gaactaccta ggaattattt ttantatcag aagaatatca ggggtgtagt 60
actcatcaga gctaaatgag aggcgtttta aatgtttagt ttgtcttcag ccatctctac 120
agaaagctga aatttcagggt tttaacacct ataggttgata tttaagaaaa aaanaagcca 180
atcgcaaatc gcccactctc tttaacaaat cattttttct ctctcaggtc tagcctgtca 240
ggtagctctc tgaatttttt gacatctcta ggaattttta tagaaccaga aatgggtgcc 300
agagatatgc ctgcactaat cttaagtggg gatitatgta ttctccagcc aatggtattaa 360
agcaaaacta ggcagatgtg aactcaaat ctcttaggca agaaagtcat gatgagtttt 420
anaatttttt taggactctg tggctttctc ttcatagaaa tagaaaaaaa aattgtata 480
aaaacacaaa aggtctctga atagcccaaa gaaacactga acaaaagaa caaagcagga 540
agcaaacacc taacgggaatt caattatact acaaggtgtt antaaccaaa aacgcattct 600
attgggataa aatagacaa agacacagtg ggaacacaga taagaancc caaatataat 660
cctatatatta cngccccc 678

```

```

<210> 606
<211> 263
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(263)
<223> n = A,T,C or G

```

```

<400> 606
gtggggctcg cancgccaa ctacgttccc ttctggggtt tgttagcaga oggatcatcc 60
tctagtcacac tgtgntcaaa ttccattgtg tgggggccc tcgcctcgga canagatctg 120
agtgaacaaa cttctcccca ctgaggtgcc ccacagcngn ttgntttcag cangggctna 180
caactcgacc ggcgcgcan gctggcaga antngcgcc tnnctcttc ctaccngtn 240
ngccgcagga aggagacag gcc 263

```

```

<210> 607
<211> 22
<212> DNA
<213> Artificial Sequence

```

```

<220>
<221> Primer

```

```

<400> 607
ccatgtgggt cccggttctc tt 22

```

216

<210> 608
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 608
gatagggggtg ctcaggggtt gg

22

<210> 609
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 609
gctgggacagg gggcaaaagc tggggcagtg aacctgtgc

40

<210> 610
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 610
ccttgtccag atagcccaagt agctgac

27

<210> 611
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 611
gatagagaa accgtccagg ccagttattgt gggaggttg gactgc

46

<210> 612
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 612
gcacatgggt cactgcccca gcttttgcac cctgtccagc

40

<210> 613
<211> 38
<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 613

ggcgctcgag ttgagattcg gggtrggcca cgatgggtg

38

<210> 614

<211> 53

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 614

cggggggcat atgcatcacac atcacacaca catcataaac ggcaggagat gca

53

<210> 615

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 615

gaactcccaag cctcctcaaaa tactgggctg gaagggtttc tctatc

46

<210> 616

<211> 1350

<212> DNA

<213> Homo sapien

<400> 616

atgcatsacc atcacaccat catcataaac ggcaggagat gcaagccgca ctgcagaccc 60
 tggcagggcg caactggctat ggaaacaaga ttgtttctgt cggggtctct ggtgcatccg 120
 cagtggggtgc tgtcagccgc aaactgtttc cgaacacct acaccatcgg gctgggctgt 180
 cacagtcttg aggcgcacca agagccaggg agccagatgg tggaggccag cctctccgtg 240
 cggcaccacag agtacaacag acccttgctc gctaacgacc tcatgctcat caagtggac 300
 gaatccgtgt ccaggtctga caccctccgg agcatcagca ttgcttcgca gtgccttacc 360
 ggcgggaact ctgtgctctg ttctggctgg ggtctgtcgg cgaacggcac atgctctacc 420
 gtgctgcagt gggtgaacgt gtgggtgggt ttctgagggt ttctgagtas gctctatgac 480
 ccgctgtacc accccagcat gttctggccc ggcggaggcg agaacccgaa ggaactctgc 540
 aacggtgact ctggggggcc cctgctctgc aacgggtact tgcagggcct tgtgtctttc 600
 ggaaagagcc cgtgtggcca agttggcgtg ccaggtgtgt acaccaacct ctgcaaatte 660
 actgagtgga tagagaaac cgttcaggcc agtatgttg gaggctggga gtgcagagag 720
 cattccaac cctggcaggt gcttggtggc tctctgtgca gggcagctgt cggcgggtgt 780
 ctggtgcacc ccaggtgggt ccttcacagt gccactgca tcaggaccaa aagcgtgac 840
 ttgtgggtg ggcacagcgt gtttcatcct gaagccacag gccaggttat tcaggtcagc 900
 caccgcttcc ccaacccgct ctacgatatg agcctctga agaattgatt cctcagggca 960
 ggtgatgact ccagccagga cctcctgtct ctccgctgt ccagcctcgt ccagctcacg 1020
 gatgctgtga aggtcatgga cctgcacacc caggagccag cactggggac cactcctgac 1080
 gctcaggtgt ggggcagcat tgaacccagag gatttcttga ccccaagaa acttcaagtgt 1140
 gtggacccac atgttatttc caatgacgtg tgtgcgaag ttcaccccca gaaggtgacc 1200
 aagttcatgc tgtgtgctgt accgtggaca gggggcaaaa gctggggcag tgaacacagt 1260
 gccctgcctg aaagccttc cctgtacacc aaggtgtgtg attacccgaa gtggatcaag 1320

218

gacaccatcg tggccaaacc cgaattctaa

1350

<210> 617

<211> 449

<212> PRT

<213> Homo sapien

<400> 617

```

Met His His His His His Ile Ile Asn Gly Glu Asp Cys Ser Pro
1          5          10
His Ser Glu Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu Phe
20          25          30
Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Ala His
35          40          45
Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu Glu
50          55          60
Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala Ser Leu Ser Val
65          70          75
Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala Asn Asp Leu Met Leu
85          90          95
Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp Thr Ile Arg Ser Ile
100         105         110
Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn Ser Cys Leu Val Ser
115         120         125
Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro Thr Val Leu Gln Cys
130         135         140
Val Asn Val Ser Val Val Ser Glu Glu Val Cys Ser Lys Leu Tyr Asp
145         150         155
Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly Gly Gly Gln Asp Gln
160         165         170
Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro Leu Ile Cys Asn Gly
175         180         185
Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala Pro Cys Gly Gln Val
190         200         205
Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys Phe Thr Glu Trp Ile
210         215         220
Glu Lys Thr Val Gln Ala Ser Ile Val Gly Gly Trp Glu Cys Glu Lys
225         230         235
His Ser Gln Pro Trp Gln Val Leu Val Ala Ser Arg Gly Arg Ala Val
240         245         250
Cys Gly Gly Val Leu Val His Pro Gln Trp Val Leu Thr Ala Ala His
255         260         265
Cys Ile Arg Asn Lys Ser Val Ile Leu Leu Gly Arg His Ser Leu Phe
270         275         280
His Pro Glu Asp Thr Gly Gln Val Phe Gln Val Ser His Ser Phe Pro
285         290         300
His Pro Leu Tyr Asp Met Ser Leu Leu Lys Asn Arg Phe Leu Arg Pro
305         310         315
Gly Asp Asp Ser Ser His Asp Leu Met Leu Leu Arg Leu Ser Glu Pro
320         325         330
Ala Glu Leu Thr Asp Ala Val Lys Val Met Asp Leu Pro Thr Gln Glu
335         340         345
Pro Ala Leu Gly Thr Thr Cys Tyr Ala Ser Gly Trp Gly Ser Ile Glu
350         355         360
Pro Glu Glu Phe Leu Thr Pro Lys Lys Leu Gln Cys Val Asp Leu His
365         370         375
Val Ile Ser Asn Asp Val Cys Ala Gln Val His Pro Gln Lys Val Thr
380         385         390

```

219

Lys Phe Met Leu Cys Ala Gly Arg Trp Thr Gly Gly Lys Ser Trp Gly
 405 410 415
 Ser Glu Pro Cys Ala Leu Pro Glu Arg Pro Ser Leu Tyr Thr Lys Val
 420 425 430
 Val His Tyr Arg Lys Trp Ile Lys Arg Thr Ile Val Ala Ser Pro Glu
 435 440 445
 Phe

<210> 618
 <211> 385
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(385)
 <223> n = A,T,C or G

<400> 618
 ctgtgtctgag aacacaaagc tatgancact gcttttccaa atgtccataa naccacacatt 60
 ttatatacta ccaccatcac ctgggagctc attagaaagc tagctctccg ggcaccacccc 120
 tggcctactgt aacctaatgt gaattttanca agattnacgt ngasatctcg aaagcacagg 180
 ggcagataac agtaccaccc gntctgggtc ctanccocan gacccttaca gtctaatctgg 240
 gacacaaagg cttnaaatca sattgccat cattaagata tacaangano ntgagaaact 300
 gctncaatta tntattaagc ngtctaaaga cttagaacac aaangcanti ctgagangat 360
 tcaaatatga nnggggncac tttnac 385

<210> 619
 <211> 869
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(869)
 <223> n = A,T,C or G

<400> 619
 gatataccgg gaattccggg ccgggtcgac ctctacttgt ttaganctaa atgcagctca 60
 gatttaacga tcccttaaaa aaatgttttc ccaatgggta aaagacaagc tcaataaact 120
 gaactctatg acataagcca aaattgatga gtatataaat atttcagtag gtggttaacta 180
 gctttctgtg tatgagttaa catatgggag aaatttaaaa cactaaagta gaactaatga 240
 aagcatatga tccatataat tctgttttca gaattgtcta atgaaaggag gaacaaatga 300
 atgaatgcgc tttattctct tagagtgctg ggcattgggt ttgcttgaaa acttcattg 360
 aattttatat ttgtacacac attacaccca tcttagacatt ataatataa gacataaggc 420
 atattctatg tcttacaatg ataatatct aagcagaaca aaasataagc aaatatcttc 480
 ttcoccaaat tttttagaca gatggatttt ccggaaagat gtgtttagct tttaatccctg 540
 ttgtttttgt taacacctgg cacactagag ttgtgctcta attcagtgag ttgttaactct 600
 ggggtgaacag tggaaatcact agggtaacct tttaaaatgc tsatgtctgg gctcgtctga 660
 agaccaaatt sattggaatc tctgngggng gnattgatct tttataatc tttctanang 720
 attctaagg gcttccaggg atgaaaaccc ctgtgggagc tnggaacctt cctttagtctt 780
 ggagaaaccc agataggggt ntnttagcnn ccgcctnttt ttggcctcgg cttcccccct 840
 tatntntttt tggaaangno cnaattttt 869

<210> 620
 <211> 339
 <212> DNA